



PART IV.—EDUCATION, SCIENCE, AND ART (D).

Administration Report of the
Director of Agriculture
for 1925.

(F. A. STOCKDALE, Esq.)



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DEPARTMENT OF AGRICULTURE.

REPORT OF THE DIRECTOR OF AGRICULTURE FOR 1925.

SECTION I.

AGRICULTURE IN CEYLON.

THE climatic conditions during the year were remarkable for the excessive rainfall in the earlier months of the year and for a very mild south-west monsoon, especially in those parts of the Central Province and the Province of Sabaragamuwa where rainfall is generally heavy.

The rainfall during January, February, and March was well above the average, and the temperatures, particularly at night, were low. April was dry, but local thunderstorms were common, and regular south-west breezes did not set in until the last week of the month. During June, July, and August the rainfall in all parts of the Island was below normal and the first half of September was exceptionally dry. During October local thunderstorms were common and rainfall distribution uneven. In November rainfall was above average, being greatly in excess in the Kelani Valley and in deficit in the western portion of the North-Western and Northern Provinces. December averages of rainfall were normal.

Tea.

2. The tea industry had another prosperous year. In the districts on the south-west side of the Island very satisfactory crops were secured as the south-west monsoon was an exceptionally mild one. Uva, however, suffered from a severe and prolonged drought and crops on that side were, in consequence, short. The total exports amounted to 208,464,971 lb. of black tea and 1,326,413 lb. of green tea of a total value of Rs. 199,697,534, as against an export of 203,278,476 lb. of black tea and 1,651,831 lb. of green tea of a total value of Rs. 214,930,307 in 1924. Prices were lower than during the previous year and averaged in local sales 96 cents per lb., as against Re. 1.04 per lb. Prices during the early part of the year declined, but a very high average standard of quality was maintained during the second half of the year, and prices for Ceylon teas stood at a higher average than those of other tea-producing areas.

3. Tea, on the whole, looks vigorous throughout the Island and determined efforts are now being made upon some estates to tackle the problem of soil erosion. Unless this is done, tea is bound in time to lose vigour and to produce reduced crops. Liberal cultivation and manuring programmes are generally adopted by all estates, and consequently average crops are being maintained. These crops will not, however, continue to be secured if soil erosion is not stopped and the humus content of the tea soils improved. The extension of *Gliricidia maculata* as a permanent green manure continues, and the Experiment Station at Peradeniya sold 40,350 cuttings during the year. The weight of loppings from *Gliricidia* on this station during the year was 10.3 tons of green material, as against 4.9 tons from dadap. *Indigofera endecaphylla* appears to be the most suitable creeping cover crop for tea cultivation so far tested, and the demand for seed and for cuttings has been considerable.

4. The shot-hole borer pest has been less prevalent than it was some years ago. It has been demonstrated by the experiments of the Department of Agriculture that the damage done to the tea bush by this pest can be repaired by liberal manuring, and nitrogenous manures, on the whole, give the best results. Several complaints have been received in regard to tortrix, and the loss of flush on some estates has been considerable. There would appear to be evidence that the area affected has not extended, but that in some of the more recently infested areas damage has been greater than in previous years, while in the older infested areas the attack has been less severe than it was several years ago. A survey of the situation is to be undertaken by the entomological officers of the Department of Agriculture early in 1926. The termites are also under investigation as these pests are the most serious pests affecting tea at the present time. Scale insects (*Coccus viridis* and *Saisettia hemisphericum*) were reported as being prevalent in the Haputale and Bandarawela districts towards the latter part of the year. Their increased prevalence was doubtless due to the prolonged drought which these districts experienced during the year, and the general situation in regard to these pests is better than it was some years previously. The leaf disease caused by *Cercospora theae* was the cause of the loss of a considerable amount of flush on several estates in the Nuwara Eliya District. It becomes prevalent and serious in the south-west monsoon, and as it spreads to tea in most cases from *Acacia decurrens* grown as a green manure, certain estates will have to consider seriously the frequent lopping of this tree in the worst of the south-west monsoon weather or of its replacement by another plant. Branch cankers and wood rots have been under investigation during the year, and the experiments which are being made on several estates in the filling of cavities in the stems and branches are being carefully watched. The branch canker fungus *Macrophoma theicola* has been found to affect tea leaves, but it is not anticipated that it will give rise to a leaf disease of any seriousness.

5. The extension of the tea-growing area continues, and prices for tea seed ruled high during the year on account of the increased demand. Imports of tea seed from Java and Sumatra during the year amounted to 17,707 lb. The total number of plants sold under permit during the year was 4,020,253, or nearly 2,800,000 in excess of the previous year. An increasing number of small holders is planting tea in the Central Province and the business of bought-leaf factories continues to be prosperous.

6. Improvement of housing accommodation for labour continues, and special attention is being given to the improvement of water supplies and to latrine accommodation. Improvements in factory equipment also continue, and the importance of improvements in manufacturing processes is becoming generally recognized.

7. The Ordinance incorporating the Tea Research Institute was passed by the Legislature in October, and the collection of the cess authorized by this Ordinance commenced as from November 12.

Rubber.

8. The exports of rubber were restricted in accordance with the Stevenson Restriction Scheme during the year. The exportable percentages varied as follows:—January 50 per cent., February–April 55 per cent., May to July 65 per cent., August to October 75 per cent., and November–December 85 per cent. of the standard production. The total exports amounted to 45,618 tons of a value of Rs. 169,992,247, as against 37,036 tons of a value of Rs. 63,749,711 in 1924. The exports of latex amounted to 6,748 gallons of a value of Rs. 27,864, as against 26,545 gallons during the previous year. Stocks in godowns of members of the Colombo Rubber Traders' Association amounted, at the end of the year, to 4,421 tons.

9. The average price at the local auctions was Re. 1.73 per lb., as against 75 cents during the previous year. A sharp rise in the price took place early in May, and in July local sales were effected at Rs. 2.83 per lb. In August prices dropped, but later there was a steady rise until the first sale in December. Considerable speculation in shares and in rubber took place, but the steadily increasing demand for rubber at increased prices has resulted in the renewed confidence of all in the future of the industry. The quality of both crêpe and sheet rubber has been well maintained, and with the recovery of prices the manufacture of sole crêpe and sole sheet has been reduced very considerably.

10. The use of formic acid as a coagulant instead of ascetic acid was begun during the year in consequence of the reduction effected thereby in the cost of coagulation. The use of paranitrophenol as a preventive of mould on sheet was experimented with during the year and found to be satisfactory.

11. An abnormal leaf fall caused by a species of *Oidium* occurred during the early part of the year, shortly after the young leaves appeared after the wintering of the trees. This disease has not previously been recorded in Ceylon, although it has previously been reported from Java and Sumatra. It is thought that the unusually wet weather in the early part of the year might possibly have been an important factor favouring the occurrence of this disease. Secondary leaf-fall and pod disease caused by *Phytophthora* occurred with the heavy rains of the south-west monsoon, but was not very severe. It has been found by experiment that manuring may secure a better foliage cover after an outbreak of secondary leaf-fall than if manuring is not carried out. The treatment of root and bark diseases is becoming more and more general and these diseases are generally under satisfactory control. Brown bast has shown no increase, probably as the result of the conservative tapping carried on during the period of restriction. Most estates are again adopting manuring programmes, and improved health and vigour in the trees will result.

12. The necessity for the prevention of soil erosion on rubber estates is being realized, and, in addition to terracing, the use of creeping green cover crops is being seriously taken up. *Centrosema pubescens* and *Vigna oligosperma* have been found to be the most satisfactory, the latter being very useful in old rubber as it grows well under shade. *Indigofera endecaphylla* is also being experimented with.

13. The Rubber Research Scheme has done very useful work during the year in all its branches. The members subscribing to this scheme at the end of the year numbered 199, and the total acreage of members represented over 60 per cent. of the total rubber area.

Coconuts.

14. The exports of coconut products and their value during 1925 were as follows:—

					Value. Rs.
Coconuts, fresh	...	...	No.	23,288,786	1,940,622
Copra	...	...	cwt.	2,273,717	38,267,912
Desiccated	...	...	cwt.	794,161	18,775,509
Oil	...	...	cwt.	616,917	16,812,750
Poonac	...	...	cwt.	168,839	1,135,084
Fibre, bristle	...	...	cwt.	160,104	1,227,726
Fibre, mattress	...	...	cwt.	300,141	712,521
Coir yarn	...	...	cwt.	131,387	2,142,128

15. The coconut industry had a prosperous year and all exports were in excess of those of 1924, except fresh nuts, desiccated nuts, and fibre. Prices for coconut products, however, did not rule so high as during the previous year. A marked increase in the export of copra is to be recorded, but some complaints in respect of quality have been received and are under investigation. A marked drop in the value of bristle fibre occurred during the year, while prices for desiccated nut were, for several months, below the cost of production, and a number of mills were closed during the year. The manufacturers of desiccated nut appealed during the year to Government for a revision of the export duties leviable on this product.

16. No material changes in methods of cultivation were effected. Manuring is gradually increasing and becoming more general. Pests and diseases were not abnormal. The outbreak of the coconut caterpillar in the Eastern Province has considerably lessened, and the campaign against black beetle and red weevil in the Southern and Eastern Provinces continued. The Plant Pests and Diseases Inspectors have done useful work in the education of small growers in the methods of estate sanitation. Amongst small holders of coconuts in the southern division, 21 lectures were given during the year, and the average attendance at each lecture was 60.

Cacao.

17. The export of cacao amounted to 68,788 cwt. of a value of Rs. 2,318,579, as against 69,351 cwt. of a value of Rs. 2,464,103 during the previous year. The spring crop was small, but the autumn crop was above the average and would have realized good prices, except for unfavourable weather conditions which resulted in a high percentage of "blacks." Prices were steady during the year except during the last months of the year.

Cardamoms.

18. The exports amounted to 3,302 cwt. of a value of Rs. 1,149,192, as against 2,667 cwt. of a value of Rs. 197,139 during 1924. Prices were the highest reached for many years, and upon some estates considerable areas have been replanted.

Citronella.

19. Exports amounted to 1,415,639 cwt. of a value of Rs. 2,259,465, as against 1,433,301 cwt. of a value of Rs. 2,941,291 during the previous year. Prices in the early part of the year were fairly high, but they declined in the latter months. Inquiries continue for pure oil, but the bulk of the exports of Ceylon oil were of average quality. The question of adulteration has again been considered, but it is felt that this question must be left to the shippers.

Cinnamon.

20. Exports amounted to 30,244 cwt. of quills of a value of Rs. 2,967,153, and 12,136 cwt. chips of a value of Rs. 200,829. These exports show a further decrease, which is the result of considerable areas of cinnamon being uprooted and the land planted with coconuts or rubber. Prices throughout the year were satisfactory.

Fibres.

21. Exports of sisal hemp amounted to 3,422 cwt. of a value of Rs. 87,181. These were more than three times the amount of the exports of the previous year and were the produce of the sisal plantation at Mahalluppalama and the Government's experimental area at Anuradhapura in the North-Central Province.

22. The exports of kapok amounted to 3,966 cwt. of a value of Rs. 214,963, a considerable falling off in respect of the previous year.

Cotton.

23. Cotton cultivation in the Hambantota District is continuing to be fostered by Government and a total of 1,293 cwt. of seed cotton was grown. This would have been very considerably higher if it had not been for heavy unseasonable rains during the month of January. The whole of this product was sold locally to the Colombo Spinning and Weaving Mills.

Paddy.

24. The paddy crops were average, but in some areas considerable damage was done by floods. In the Batticaloa District the crops were not good, and in fact in some areas considerable areas failed. Some distress also occurred in the North-Central Province and in the Mullaittivu District of the Northern Province on account of the failure of crops.

25. Swarming caterpillar occurred in some localities and caused damage when adequate water for the flooding of the fields was not possible. In the Batticaloa District this pest was fortunately not so serious as during the previous year. Paddy fly occurred, and caused some damage, in the Central and Eastern Provinces, but control measures were carried out and were generally effective.

Curry Stuffs.

26. The dependence of the Colony for its curry stuffs, as well as for rice, was emphasized during the year, and efforts made to encourage the growing of more curry stuffs locally. There has been some response and increased acreages in these crops were sown during the north-east monsoon. Much of these are grown mixed in chena crops of dry grains. Chena crops were very promising at the end of the year, particularly in Uva, the Eastern Province, and the Hambantota District of the Southern Province.

Miscellaneous.

27. Increasing demands for high grade papain continue, and an extension of papaw cultivation took place during the year in the Teldeniya area of the Central Province.

28. The exports of arecanuts during the year amounted to 154,291 cwt.

29. Efforts to extend the cultivation of White Burley tobacco in the Jaffna District were continued, and the exports of this product amounted to 15,057 lb. and realized prices ranging from 1s. 5½d. to 1s. 7d. per lb. on the London market.

SECTION II.

WORK OF THE DEPARTMENT OF AGRICULTURE.

30. Full details of the work of the various divisions of the Department are given in the Annexures I.-XI. attached to this report.

Agricultural Investigations.

31. The following additional experiment stations were started during the year:—A dry land and paddy station at Uliyankulam; 2 cotton stations in the Walapane division of the Nuwara Eliya District; 2 minor cotton rotation stations at Hingama junction and Middeniya in the Hambantota District; citronella station at Damana in the Eastern Province; 2 nursery supply blocks at Mahaoya, Uhana, and Labugala in the Eastern Province; and 10 paddy stations at Kurunegala, Madampe, Katugastota, Kobowela, Mahagama, Akmimana, Tihagoda, Badulla, Ratnapura, and Godakawela; while co-operative experiments with coconuts and paddy were carried out in co-operation with Gate Mudaliyar A. E. Rajapakse at Ja-ela and Negombo.

32. At the Peradeniya Experiment Station the tea manuring experiments have been reorganized and further rubber experiments begun. Soil erosion experiments have been begun and a considerable amount of work done with the testing of various creeping cover crops. The value of *Gliricidia maculata* as a green manure has been further demonstrated, and 40,350 cuttings were sold during the year, whilst the value of seeds of green manures and cover crops supplied from this station during the year amounted to Rs. 2,433.47. This demand for green manure and cover crop seed is a welcome sign that soil erosion is being taken seriously by an increasing number of estates. There was a demand for rubber seed during the year, and the crop on the Peradeniya Experiment Station was a fair one. Experiments have been continued in the testing of roselle fibre (*Hibiscus sabdariffa* var. *altissima*), and a fair amount of interest continues to be shown in the trials with robusta types of coffee. The experiments with fodder grasses have been continued. Encouraging results have been secured with napier grass (*Pennisetum purpureum*) and good results with this grass have also been reported from Up-country. Buffalo grass (*Setaria sulcata*) and *Paspalum commersonii* were planted out for comparative trials. Both of these grasses appear to stand drought satisfactorily.

33. At Anuradhapura Experiment Station the extraction of sisal was continued, and 13 tons 7 cwt. of first-grade sisal was prepared by the single scrutching machine and this was sold for Rs. 400 per ton delivered at the Colombo goods shed. Extraction had to be stopped for a short period during the height of the dry period, as satisfactory work could not be done with the somewhat desiccated leaves, and extraction during the wet months of the north-east monsoon is impracticable as it is impossible to secure the proper drying of the fibre. Continuous extraction should be possible from January 15 to October 15, with a possible stoppage for two weeks in the middle of August if the drought during the dry period of the year is severe. Sisal has also been planted at the Ambalantota Cotton Experiment Station and after taking some time to "take hold" has made satisfactory growth. Trials on the red soils of the Jaffna Experiment Station indicate that they are unsuitable for sisal as growth is excessively slow on this type of land. The preparation of palm oil has been undertaken during the year, both the "soft oil" and the "hard oil" processes being experimented with. The yields of limes have been very good during the year, but several cases of die-back and of gummosis occurred. The kapok cultivation is making satisfactory headway. A considerable extension of paddy-growing took place in order to provide further areas for multiplication trials for the pure-line paddies isolated and tested by the Economic Botanist. This work is now beginning to give results and a number of additional paddy testing stations were sanctioned by the Legislature. It was possible to make a beginning with the work of some of these stations during the maha crop season, but in other areas delays in securing suitable areas of land occurred.

34. At the Jaffna Experiment Station very satisfactory work in the selection of chillies has been done and a beginning made on kurakkan and other grain crops. The experimental work with fodder cholams has been continued and trials in the preparation of silage in pit silos made. These experiments have aroused interest in the growing of fodder in the district and the growing of fodder cholam is now extending. Experiments with White Burley tobacco cultivation has been continued, and it has been found that tobacco grown from imported seed gives better results than that grown from locally-produced seed. An extension of the cultivation of White Burley tobacco by tobacco growers took place during the year. 268 cultivators in 29 villages grew this crop during the year, and a sum of Rs. 11,025.15 was paid to them for their crops. The tobacco was shipped to England in bales and realized on the London market 1s. 7d. per lb. for the first consignment, and 1s. 5½d. per lb. for the second consignment. The quality was not so good generally as the shipments of previous years, but this was mainly due to the inexperience of a number of growers in methods of manufacture of this type of tobacco.

35. The cultivation and manuring experiments at the Chilaw Coconut Trial Ground were continued during the year, as also the co-operative trials with coconuts owned by Gate Mudaliyar A. E. Rajapakse.

36. The cotton experiments on the Ambalantota Experiment Station were continued. Yields were lower than usual owing firstly to the difficulty in the controlling of weed growth, and secondly to the heavy and unseasonable rains which occurred in January and caused in consequence a heavy boll and flower-bud shedding. The total crop of cotton grown in the Hambantota District amounted to 1,237 cwt., for which a sum of Rs. 30,733.40 was paid by the Spinning and Weaving Mills. The arrangements whereby all seed cotton is purchased for the mills through departmental officers at definite centres have worked satisfactorily, and growers have been very pleased with the means of disposing of their cotton for cash with the minimum of effort on their part. The success of this purchase scheme has been largely due to the efforts of Mr. F. Burnett, Divisional Agricultural Officer, and to his staff in the Hambantota District.

37. Cotton is also doing well at Embilipitiya and in Walapane, but the results at Nalanda and Meegahakiula have not come up to expectations. During the last few weeks of the year Mr. G. R. Hilson, Cotton Specialist to the Government of Madras, visited the cotton areas of Ceylon and reported upon their possibilities. He was very favourably impressed with the prospects in the Hambantota District and thought that the other areas worthy of close attention were Dambulla, Embilipitiya, and certain sections of the North-Central Province. He advised experiments with rotation crops, and proposals on these lines have been drawn up.

38. The sugar-cane experiments at Bibile have given satisfactory results and this cultivation will be extended on this station. Citronella is growing well on the Experiment Station begun at Damana in the Wewagam pattu of the Eastern Province. Results of importance to the citronella industry are also being secured in the varietal tests being made at the Borala Experiment Station at Weligama. Excellent crops of pineapples have been raised at the Batapola Experiment Station and some extension of cultivation in this area is resulting from these experiments.

PADDY.

39. The work for the improvement of paddy cultivation has been continued in all districts. The selection and testing of pure-line strains by the Economic Botanist has been continued. Experience has shown that centralization of this work at the Experiment Stations at Anuradhapura and Peradeniya required modification. Types which give certain performances at these stations could not be relied upon to repeat them in other areas where soil and climatic conditions differed. It has, therefore, been found necessary to establish a number of test stations in the different districts. The Legislature provided funds for the establishment of 19 such stations, and work at 11 of these stations was begun before the close of the year. In the Central Division it has been found very difficult to secure suitable lands, but these difficulties are being gradually surmounted. The Economic Botanist has at present a very large number of pure-line strains isolated, but these numbers will be reduced as multiplication tests are made. Sixty bushels of pure-line strains of long-aged paddies and 87 bushels of short- and mid-aged paddies were sown for testing purposes at various stations during the year, and 335 bushels of pure-line seed paddy were sold to cultivators. B 12, a pure-line extract of kohumawi from the Central Province, continues to show its superiority over local varieties in the Katugastota area of the Central Province. G 1, a pure-line extract of mahamawi from the Western Province, continues to do well in the North-Western Province and its popularity is spreading. F 7 and K 5 have been successful in the Trincomalee District, and 43 bushels of these pure-lines were issued to cultivators in this district. At Batticaloa 2 pure-line strains have likewise been successful and are arousing interest.

40. Manurial experiments and demonstrations have been continued. Green manuring has been shown during the year to give good results in Uda Hewaheta, at various centres in the Southern Province, in Uva, and the Eastern Province. Basic slag has given very good results on peaty soils and it has been demonstrated that ephos phosphate may replace bone meal in certain areas. A total of 245 plots at 47 different centres were under experiments with or demonstrations of manures.

41. Ploughing demonstrations were held in the Kegalla District and in the Eastern Province. Transplanting is being taken up in Matale as the result of demonstrations by the Agricultural Instructor. In the Eastern Province efforts are still being continued to secure satisfactory early ploughing and weeding. Much greater yields could be secured if the weed problem of the paddy fields of the Batticaloa District were satisfactorily handled.

PRIZE-HOLDING COMPETITIONS.

42. The number of entries for these competitions is continuing to increase, and the work of a number of competitors has shown marked improvements. The Agricultural Instructors visit regularly the competitors and in this way keep in close touch with the work carried out. They are also able to assist cultivators with advice and to make suggestions in regard to improvements.

43. The following is a list of the competitions which were held during the year:—

Paddy cultivation competitions	... 30	Cotton cultivation competitions	... 5
Vegetable garden competitions	... 27	Tobacco cultivation competitions	... 1
Tea garden competitions	... 3	Police garden competitions	... 2
Cacao garden competitions	... 3	School garden competitions	... 5

44. The thanks of the Department are due to the Hon. Lieut.-Colonel T. Y. Wright; the Hon. Mr. Justice G. S. Schneider; Mr. J. P. Obeyesekere, Mudaliyar of Siyane korale east; Mr. H. E. Wickramaratne, Mudaliyar of Wellaboda pattu, Matara District; Mr. W. A. Perera, Mudaliyar of Gangaboda pattu, Matara District; Muhandiram W. Daniel Fernando Waidyasekera; Dr. C. Brito-Babapulle; and Messrs. E. J. Buultjens and D. Samaraweera for their generous donation of prizes for some of the above-mentioned competitions.

AGRICULTURAL SHOWS.

45. Agricultural shows were held during the year at the following centres:—Nuwara Eliya, Badulla, Alawatugoda, Paldeniya, Harasbedda, Wariyapola, Uhana, Akkarai pattu, and Kalmunai. Most of these shows were village shows, and the Department sent exhibits of general interest and arranged for departmental officers to give lectures during the period of the show on a number of agricultural subjects. These lectures were all well attended and enabled officers to indicate to growers the work which the Department is endeavouring to perform, and to encourage growers to present their problems and difficulties to the Department.

PESTS AND DISEASES.

46. Hevea mildew caused by a species of *Oidium* was investigated during the year, and particular inspections were made of tea estates in the Nuwara Eliya District in connection with the leaf disease of tea caused by *Cercospora theae* which was responsible for the loss of a large amount of flush. Reports of the seriousness of branch cankers of tea were received during the year and information was given by the Department as to the filling of cavities which were being tried upon certain estates. A conference of the scientific officers of the Department was held during the year to consider the position of this disease. It was concluded that the problem was a mycological one, as the termites involved were entirely scavengers and were responsible only for clearing up the decayed tissues. Investigations were therefore made by the mycological officers during the year, and as a result it has been concluded that it is advisable to separate the cankers of young twigs and branches from the wood-rots of the larger branches and stems. The latter are the more serious and arise largely from pruning cuts. The filling of cavities is not likely to be successful unless all diseased tissues have been removed. A leaf disease of tea caused by *Macrophoma theicola* has been worked on during the year, but it is thought that it is never likely to become serious. Grey blight of coconuts has been submitted for examination during the year, and Dr. Gadd has completed his inoculation work with the *Phytophthora* of coconut, arecanut, hevea, and cacao. The *Rhizoctonia* disease of *Vigna oligosperma* has been worked on by Mr. Bertus and attention given to other diseases of economic plants caused by *Rhizoctonias*. Mr. Ragunathan has done further work on the soft rot of betel, and Mr. Park completed his investigations of a disease of dadaps caused by a species of *Fusarium*.

47. The shot-hole borer investigations in the charge of Mr. Jepson were completed during the year, and it has been clearly demonstrated that the damage to the tea bush caused by this pest can be repaired by liberal applications of manures. Nitrogenous manures appear to give the most satisfactory results, while potassic manures have also shown benefit. The investigations of the relationship between house flies and manures on estates were also completed. An examination of the pests of vegetable crops was begun by Mr. Austin during the year, and an outbreak of the small tussock on dadaps controlled. Dr. Hutson records that the control of *Taragama dorsalis* on dadaps shading cacao was completed during the year and has made further investigations of the spotted locust, a pest which may become serious if not closely watched. He has also investigated beetles affecting copra, of which there has been a number of complaints. An outbreak of the tea tortrix was reported during the year as being serious, and a further special investigation is being arranged for. Termites are undoubtedly the most serious pests of tea in Ceylon at the present time, and these are being further investigated.

48. Plant Pest Inspectors have been continuing their educational campaigns, and a series of special lectures have been given in the vernacular in the villages in the Central and Southern Divisions. Special posters have also been prepared and should be ready for issue early during 1926. The Plant Pest Inspectors report coconut beetles and weevils in all districts and special campaigns were launched against them in the Southern Province and the Eastern Province. The coconut caterpillar has been less serious in the Batticaloa District, and swarming caterpillar of paddy was not so serious as during the previous year. The Plant Pest Inspectors and their staff work largely amongst the small holders and are doing much towards securing better cultivation and more attention to the general sanitation of these holdings.

SOILS AND MANURES.

49. The new chemical laboratory was opened on March 12, and chemical research work began therein from April 1. During the year investigations of the milks of the Peradeniya instructional dairy were carried out, and then Mr. Joachim and his assistant carried out researches on the absorption capacity of Ceylon soils from certain artificial manures and studied the amount of leaching of these manures which normally took place. It was found that the amount of leaching was not so great as was generally supposed. Investigations on the decomposition of various green manures and organic fertilizers were also begun and should yield results of importance.

AGRICULTURAL EDUCATION.

50. In addition to lectures in the vernaculars in villages in regard to the control of pests and diseases, lectures have been delivered in the vernaculars in all districts of the Colony by agricultural officers. These have dealt with various activities of the Department, but have been directed mainly towards the encouragement of better cultivation methods of paddy and of the greater cultivation of other food stuffs and curry stuffs which can be readily grown in the Colony, but which are now largely imported. Lectures in English and in the vernaculars have been given on the cultivation of food stuffs and curry stuffs at the Farm Schools at Peradeniya and Jaffna, and these lectures, which were designed mainly for the guidance of agricultural officers and for the instruction of the students at these schools, were thrown open to the public.

51. The number of students at the Farm School, Peradeniya, at the end of the year was 35, of whom 13 were second-year and 10 first-year students in the English course and 12 were teachers of Government vernacular schools receiving special instruction. The work of the students was, on the whole, satisfactory, and useful progress has been made with the instructional dairy which has been established in conjunction with this school.

52. The Farm School at Jaffna was opened on September 28. There were 30 applications for admission, but only 12 were possessed of the necessary educational qualifications required before admission.

53. School garden work has improved in some districts. The work of the Colombo and Ratnapura Districts has particularly shown an improvement, the number of registered gardens having increased by 17 in the Colombo District, and 6 in the Ratnapura District. The work of school gardens in the Kurunegala District continues to improve year by year, largely as a result of the competition held for the prize offered by the Hon. Lieut.-Colonel T. Y. Wright. Great keenness is shown in the Chilaw-Puttalam District also for the Challenge Cup offered by the Hon. Mr. G. S. Schneider since 1923, and much good work has been recorded in this district. The school gardens in the Southern Division have maintained the standard of efficiency reached

during the previous year, and particular mention must be made of the Kalutara District where the school garden work is rapidly improving, largely as a result of the annual prize offered by Muhandiram W. Daniel Fernando Waidyasekera of Panadure. Some progress has been made in the Kandy and Kegalla Districts; while the work of Matale and Nuwara Eliya Districts is only fair. The home garden work of the Central Division can now be said to be satisfactory, and every endeavour is being made to effect further improvement and to increase the number of such gardens.

54. Home gardens cultivated by pupils of vernacular schools are on the increase in many districts. Every effort is being made to emphasize the value of extension work, and to encourage agricultural education. There are several teachers who do not yet realize the importance of school garden work, and it has been noted that in some instances trained teachers are not giving the attention required to the school garden work and to nature teaching in the schools. This, in some cases, is due to indifference on the part of teachers, but often it is due to difficulties over fencing or with water supplies.

55. The number of registered school gardens was as follows at the end of the year:—

Central Division	...	172	Colombo District	...	78
Southern Division	...	134	Ratnapura District	...	50
Northern Division	...	70	Badulla District	...	28
North-Western Division	...	94	Batticaloa District	...	38

56. The number of unregistered school gardens is yearly on the increase, and the question of registering them becomes a difficult problem when funds are not readily forthcoming from the District School Committees concerned for their initial equipment. The policy of this Department is to maintain the tools and implements required in school gardens after registration, but the initial equipment for new gardens is required to be met from District School Committee funds. As a large number of school gardens was awaiting registration, an additional sum of Rs. 2,500 was obtained from Government to permit of the provision of tools and implements to new school gardens during the financial year 1924-25. Thirty such gardens were equipped, and an equal number will be dealt with during the current financial year.

57. A large number of school gardens suffers from damage by cattle by reason of defective fencing, and from inadequate water supply. Unless the District School Committees concerned are prepared to assist in the provision of further fencing and water supplies for the upkeep of these gardens, the work in them is bound to suffer.

58. Registered school gardens in all the divisions, where necessary, were supplied with fresh stocks of implements during the year to replace wear and tear. The total expenditure on implements amounted during the financial year 1924-25 to Rs. 6,954.56, and seed and plants to the value of Rs. 1,926.90 were also supplied.

59. During the financial year 1924-25 a sum of Rs. 4,575 was awarded to school and home gardens for satisfactory garden work, and 701 certificates were issued to teachers and pupils.

CO-OPERATION.

60. Sixty-six new societies were registered during the year and general progress was maintained. Increased interest in the co-operative movement is being shown, and I certainly look for a considerable extension of the movement at an early date. The number of members of co-operative societies now total 33,630, with share capital amounting to Rs. 333,299.12 and deposits to Rs. 31,853 to their credit. The combined reserve funds of societies at the end of the co-operative year, April 30, 1925, amounted to Rs. 65,161. Government loans amounting to Rs. 61,500 were given during the year. Difficulty is still being experienced in many societies in the recovery of loans, but rapid progress cannot be expected until more businesslike habits in this important matter of repayment of loans on due dates become more general.

SEED DISTRIBUTION.

61. The demands for seeds increased during the year, and sales amounted to Rs. 10,881.95. Free distribution of a value of Rs. 2,430.98 was made.

MARKETS.

62. Preliminary inquiries into the marketing of produce were made in some districts during the year as it is felt that solid progress will not be made with the greater local production of foodstuffs and curry stuffs until greater facilities for the marketing of produce are afforded and the marketing of produce is better organized.

PUBLICATIONS.

63. The following publications were issued during the year:—

- The "Tropical Agriculturist," Vols. LXIV. and LXV.
- The "Govikam Sangarawa," Vol. XIX., Parts 7-12, and Vol. XX., Parts 1-6.
- The "Kamat Tholil Velakkam," Vol. XIX.

Bulletins of the Department of Agriculture.

- No. 71.—Entomogenous Fungi and their Use in controlling Insect Pests.
- No. 72.—The Control of Shot-hole Borer of Tea.
- No. 73.—Imports of Fertilizers into Ceylon.

Leaflets.

- No. 32.—The Paddy Swarming Caterpillar.
- No. 33.—The Tea Tortrix.
- No. 34.—The Cultivation of Turmeric.
- No. 35.—Grow more Chillies.
- No. 36.—Cultivation of Garlic.
- No. 37.—Cultivation of Onions.

64. The sales of publications realized Rs. 18,125.97 during the year. There is an increasing demand for the publications of the Department and the number of regular subscribers showed an increase.

BOTANICAL INVESTIGATIONS.

65. With the retirement of Mr. T. Petch, Botanist and Mycologist, and of Mr. H. F. Macmillan, Superintendent of the Botanic Gardens, advantage was taken of the opportunity of reorganizing the botanical side of the work of the Department. A full-time Systematic Botanist was appointed, and in addition to routine investigations on specimens sent for examination he has begun work on the issue of a further supplementary volume to Trimen's Flora and then proposes to take up a critical examination of the Ceylon grasses and ferns. There is a considerable amount of systematic and ecological work to be done, and these investigations are necessary for the proper advancement of a knowledge of Ceylon botany.

66. Very considerable additional improvements have been effected in the Royal Botanic Gardens, Peradeniya, during the year. Special attention has been given to the main drive and to the fernery. Mr. Parsons has taken in hand a number of important new works calculated to improve the general condition of these gardens.

67. The Hakgala Gardens continue to improve and are now in very good order. The establishment of the rockery and the bulb garden, in addition to the two floricultural sections, has added considerably to the appearance and interest of these gardens. The general improvement in these gardens during recent years reflects credit upon Mr. J. J. Nock, the Curator, and the further extension of the rockery undertaken during the year should improve materially this portion of the gardens. It has been decided to devote this new section of the rockery to the trial of indigenous plants.

68. Henaratgoda Gardens has greatly improved under the supervision of Mr. K. J. Alex. Sylva, and the cost of maintenance is now almost covered by the receipts from the sales of rubber and from rubber seeds.

69. Improvements have been made during the year to the Queen's House Garden and other gardens attached to the Governor's and Colonial Secretary's residences have been maintained in satisfactory order.

70. It has been decided to prepare up-to-date guides to the Royal Botanic Gardens, Peradeniya, the Hakgala Gardens, and the Henaratgoda Gardens, and work on these was begun during the year.

EXPENDITURE.

71. The expenditure of the Department during the year was as follows:—

	Rs.	c.		Rs.	c.
Salaries	362,759	24	Co-operative Societies:—		
Travelling	57,589	52	Salaries	8,241	29
Gardens: Labour and Upkeep:—			Travelling	1,273	9
Peradeniya gardens	21,941	97	Incidental expenses	22	95
Hakgala Gardens	6,894	68	Seed Store and Publication Depot:—		
Henaratgoda Gardens	3,048	49	Salaries	5,406	60
Nuwara Eliya Gardens	1,969	71	Seed distribution	8,795	6
Queen's House Gardens	2,731	63	Publications	12,557	78
King's Pavilion Gardens	2,999	11	Incidental expenses	15	9
Queen's Cottage Gardens	5,489	18	Special Expenditure:—		
Temple Trees Gardens	1,200	56	Experimental cultivation of tobacco	12,914	64
The Lodge Gardens	598	52	Grants in aid for agricultural shows and competitions	6,051	37
Cuddesdon Gardens	1,496	91	Training of Secretaries for Co-operative Societies	1,380	23
Nursery work in Colombo	258	47	Experiments and demonstrations with paddy manuring and seed selection	10,865	77
Experiment Stations:—			Upkeep of additional minor experiment and demonstration plots	10,414	60
Peradeniya	32,453	64	Cotton experiments	7,634	70
Jaffna	11,966	63	Equipment of Chemical Laboratory	16,843	10
Anuradhapura	18,716	91	Maintenance of Davies' tree, Katugastota	167	72
Chilaw Coconut Trial Ground	1,975	0	Gas plant for Chemical Laboratory	11,518	65
School and Home Gardens:—			Sugar cane experiments	2,435	19
Labour and upkeep	12,316	86	Equipment of agricultural school	2,842	44
Upkeep of library, &c.	5,921	7	Grant in aid to Imperial Bureau of Entomology	7,500	0
Prevention of plant pests and diseases	1,560	35	Expenditure in connection with Rubber Research Scheme grant in aid, London	67,500	0
Incidental expenses	2,830	56	Deputation of an officer to proceed to India to study co-operative credit systems	3,233	85
Agricultural Education:—			Total	786,129	66
Salaries	10,656	3			
Scholarships	1,911	90			
Travelling	113	50			
Lecturing fees	1,134	0			
Incidental expenses	991	79			
Laboratory expenses	578	33			
Labour and upkeep	6,663	80			
Dieting of students	6,387	62			
Dairy establishment	3,359	56			

72. This expenditure may be itemized under the following sub-heads:—

	Rs.	c.
Administration	38,928	68
Research: Scientific investigations, including Central Experiment Station	271,657	41
Botanic Gardens, including gardens of Governor's and Colonial Secretary's residences	99,471	0
Agricultural Education, including School of Tropical Agriculture, school gardens, grants to shows and competitions	56,241	5
Divisional experiments, including special expenditure on tobacco cultivation, experimental cultivation of cotton, and Experiment Stations in Jaffna and Anuradhapura, and other experimental plots... ..	280,905	58
Co-operative Societies	14,151	41
Seed Store and Publication Depot	24,774	53
Total	786,129	66

RECEIPTS.

73. The following is a statement of receipts for the financial year 1924-25 :—

	Rs.	c.
1. Sale of seeds and publications	28,887	95
2. Botanic Gardens, Peradeniya	5,790	1
3. Botanic Gardens, Hakgala	1,207	34
4. Botanic Gardens, Henaratgoda	196	35
5. Experiment Station, Peradeniya	33,546	44
6. Experiment Station, Balangoda	89	5
7. Experiment Station, Godakawela	205	94
8. Northern Agricultural Division :—		
Experiment Station, Anuradhapura	8,597	46
Experiment Station, Jaffna	7,004	0
Experiment Station, Trincomalee	245	88
	15,847	34
9. Central Agricultural Division	14,127	30
10. Southern Agricultural Division	4,804	58
11. Eastern Agricultural Division	778	23
12. Economic Botanist's Division	818	70
Total	106,299	23

74. These receipts may be itemized under the following heads and sub-heads :—

	Rs.	c.
Head 3, Stamp Duty	0	70
Head 3, Fines and Forfeitures	77	65
Head 4, School Fees, School Books, and Stationery	11,294	50
Head 4, Sundries	20,901	30
Head 5, Other Collections	6	73
Head 6, Railway Receipts	23	36
Head 8, Sale of Old Stores and Cast Animals	206	71
Head 8, Sundries	2	5
Head 9, Miscellaneous Land Revenue	73,786	23
Total	106,299	23

75. These receipts are Rs. 30,444.91 in excess of those of the previous year, the largest increase having been shown by the Experiment Station, Peradeniya, due to high prices realized from rubber and tea crops.

PRESS COMMUNIQUEs.

76. The following *communiqués* were issued to the Press during the year :—

Appointment of Mr. C. N. E. J. de Mel as Plant Pests Inspector.
 Leave for Mr. F. Burnett and the appointment of Mr. N. K. Jardine to act.
 Award of Silver Medals to Messrs. W. Molegoda and N. Wickramaratne for British Empire Exhibition Exhibits.
 Appointment of Mr. R. A. Cameron to Tanganyika.
 Pitigal Korale North Paddy Cultivation Competition, Maha Season, 1924-25.
 Mahagalboda Megoda Dakunukorale Co-operative Society Vegetable Garden Competition.
 Paddy-Growing Competition in Dewamedi Hatpattu.
 Appointment of Dr. W. Small as Mycologist.
 Schneider Challenge Cup Competition.
 School Garden Prize Competition, North-Western Province.
 Lectures on Increased Production of Curry Stuffs.
 Agricultural Conference at Peradeniya.

LEGISLATION.

77. The following Ordinance affecting agriculture was passed by the Legislative Council during the year :—" The Tea Research Ordinance, No. 12 of 1925."

BOARD OF AGRICULTURE.

78. The following appointments were made to the Board of Agriculture during the year :—

Estates Products Committee.

Sir S. D. Bandaranaike *vice* Mr. Felix R. Dias.
 Mr. C. B. Loudan Shand *vice* Mr. E. M. Windus.
 Mr. E. C. Villiers *vice* Mr. A. W. Beven.
 Mr. Geo. Brown *vice* Mr. E. Maberly Byrde.
 Mr. S. P. Blackmore *vice* Mr. O. Balean.
 Mr. T. J. Wilson *vice* Mr. A. C. Yates.
 Mr. J. Ferguson *vice* Mr. J. B. Coles.
 Mr. C. H. Wilkinson *vice* Mr. A. T. Sydney Smith.
 Mr. E. C. Cave Brown *vice* Mr. L. A. Wright.
 Mr. A. W. R. Joachim *vice* Mr. A. Bruce.
 Mr. W. R. Matthew *vice* Mr. C. C. Durrant.
 Mr. A. H. Reid *vice* Mr. J. W. Scott.
 Mr. H. Scott *vice* Mr. H. W. Gavin.
 Mr. H. V. Hill *vice* Mr. W. R. Matthew.
 Mr. D. F. C. Dyson *vice* Mr. J. S. Patterson.
 Mr. H. W. Roy Bertrand *vice* Mr. Allen Coombe.

Mr. H. L. De Mel *vice* Mr. N. D. S. Silva.
 Mr. James D. Dunlop *vice* Mr. A. F. B. Smeaton.
 Mr. A. T. Sydney Smith *vice* Mr. H. Wilkinson.
 Mr. J. S. Patterson *vice* Mr. D. F. C. Dyson.
 Mr. J. B. Coles *vice* Mr. J. Ferguson.
 Mr. H. F. Parfitt *vice* Mr. R. F. Battams.

Food Products Committee.

Dr. W. A. de Silva *vice* Mr. K. Balasingham.
 Mr. R. J. Bateman *vice* Mr. M. K. T. Sandys.
 Mr. J. A. M. Bond *vice* Mr. R. Senior White.
 Mr. J. I. Gnanamuttu, Secretary to the Board, *vice* Mr. A. W. R. Joachim.

79. The following matters were dealt with by the Board of Agriculture and its various Committees during the year:—

Board of Agriculture.

Report on Work on Paddy Selection by the Economic Botanist.
 Sisal Experiments.
 Oil Palm Experiments.
 Definition of all Crown land available for disposal.
 Cultivation of Pineapples in the Jaffna District.
 Co-operation and Co-ordination between the Departments interested in Agriculture.
 Standardization of the "Kurunie."
 Tea Research Scheme.

Estates Products Committee.

Relation of Tea Soils to Quality.
 Application of Nitrate of Soda on Tea Soils.
 "Thermogan" Mulch.
 Latest information on Grafting and Budding of Rubber.
 Taragama Dorsalis.

Rubber.

Rubber Tapping Experiments on the Experiment Station, Peradeniya.
 Soil Erosion Experiments.
 The Control of Shot-hole Borer of Tea by Manures.
 Tea Tortrix: the Present Position.
 Breeding of Flies in Manures.
 Report on Oil Palm Nuts from Ceylon.
 Bud-Rot of Coconuts.
 Nitrogenous Manures for Coconuts.
 Manurial Experiments with Tea at Peradeniya.
 Further Results of Manurial Experiments with Rubber.
 Further Results of Rubber Tapping Experiments.
 Proposals for Soil Erosion Experiments at Peradeniya Experiment Station.
 Tea Termites.
 Results of Sisal Experiments at Experiment Station, Anuradhapura.
 Supplying old Tea.
 Report on the Manning Coconut Trial Ground for 1924-25.
 Report on Coconut Trials at Alexandra Estate, Ja-ela, for 1924.
 Mimosa Invisa.
 Fodder Grass Trials on the Experiment Station, Peradeniya, 1924-25.
 Trials with Ammo-phos.
 Vigna Oligosperma.
 Plantain Disease and the Import of Plantains from South India.
 Seed Selection and Planting Distance in opening new Rubber Areas.

Food Products Committee.

Preparation of Lists of Crown Land available in Villages.
 Standardization of the "Kurunie."
 Restoration of the Akkatimurippu Scheme.
 Internal Communication.
 Encouragement of Growing of Plantains.
 Extension of Work of a Department of Agriculture in the testing and distribution of selected Pure-lines of Paddy.
 Further consideration of the Standardization of the "Kurunie" Measure.
 The necessity for revival of policy of restoring major Irrigation Schemes.

District Agricultural Committees.

80. These Committees which have been formed in the Kandy, Nuwara Eliya, Matale, Kegalla, and Matara Districts dealt with the following items during the year:—

Matara.

Agricultural Competitions.
 Selection of Seed Paddy.
 Irrigation.
 Agricultural Experiments.
 Poultry Farming.
 Kurunie Measure.

Pests and Diseases proclaimed under the Plant Protection Ordinance.
 Transplanting and Vegetable Garden Competitions.
 Growing of Plantains.
 Working of Co-operative Societies and Application of Co-operative Principles to Present-day Industries.
 Cultivation of Cotton in Hambantota.
 Citronella at Borala.
 Snail Pest at Deniyaya.
 School Gardens.
 Clearing of Atmagas on Crown land.
 Training Classes for Honorary Workers of Co-operative Societies.

Nuwara Eliya.

Tea Garden Competitions, Kotmale.
 Walapane Agricultural Show.
 Experiment Station for Pundaluoya.
 Cultivation of Cotton.
 Jak Cultivation in Uda Hewaheta and Kotmale.
 Granary at Harasbedda.
 Bunchy Top Plantain Disease.
 Importation of Stud Bulls.

YEARBOOK.

81. A further number of the Yearbook, containing details of the main lines of technical work accomplished by the Department during the year 1925, was prepared at the end of the year ready for issue in March, 1926. The contents of this Yearbook are as follows:—

Introduction.
 Soil Erosion.
 Soil Erosion Experiments on the Experiment Station, Peradeniya.
 A note on Branch Canker of Tea.
 A Die-back Disease of Dadap (*Erythrina lithosperma*).
Indigofera endecaphylla as a cover crop for Tea.
 A Leaf Disease of Tea caused by *Macrophoma theicola* Petch.
 The small Tussock Moth (*Notolophus Posticus* Wlk.).
 Hevea Mildew.
 A Report on the Progress of White Burley Tobacco Cultivation in the Jaffna Peninsula with special reference to Seasons, 1923-24 and 1924-25.
 Possibilities of increasing the Yields of Paddy in Ceylon.
 A Rhizoctonia Disease of Vigna.
 The African Oil Palm.
 The Spotted Locust (*Aularches miliaris* L.)
 Improvement of Chillies by Selection.
 Notes on the Life History and Habits of the Curry Leaf Beetle (*Silana farinosa* Boh.).
 The Fly Nuisance in Estates in Ceylon.
 Further important Notes on Rats.
 Adlay, Its Uses and Prospects.
 Yield and Quality of Milk from the Farm School Dairy, Peradeniya.
 Snail Pest at Deniyaya.

HEAD OFFICE.

82. It was decided in April to adopt, with necessary modifications, the improved system of office procedure recommended by the Director of Statistics. The first stages of the scheme have been given some months' trial and have been found to make for more efficient dispatch of business. The completion of the new headquarters of the Department, with the provision of one large hall for the clerical staff, and the equipment of the hall with work desks designed on modern lines, should facilitate the working of the new system. The records of permanent importance have been classified and a great proportion rebound and encased in strong folders. 1,851 of the office correspondence files, numbering a total of 2,421, have been examined and 220 destroyed, while about 500 await further scrutiny. The clerical work of the Department increased considerably from about the middle of the year, due to the increased activities connected with food production, propaganda, experiment stations, plant pests, research schemes, reports on special questions, &c. That the work has been carried out without an increase of staff has been due to improvements in the office system but mainly to the willing manner in which the clerical staff has throughout performed their duties, at times at great pressure.

STAFF CHANGES AND DEPARTMENTAL EXAMINATIONS.

83. Departmental examinations were held in January and July and the vernacular examinations quarterly. The following officers passed the examinations during the year:—

Junior Departmental.—Messrs. M. R. M. Jebaratnam, B. A. Pereira, and M. Amarasinghe.

Probationers.—Messrs. M. W. Jayasuriya, R. S. D. Jansz, T. J. Jayaratnam, M. P. D. Pinto, Joubert de Silva, and Victor de Silva.

Sinhalese.—Messrs. A. T. Reeve, Walter Perera, Joubert de Silva, M. P. D. Pinto, N. K. Jardine, L. A. A. Perera, L. Abeyesundera, R. S. D. Jansz, F. D. Peiris, M. W. Jayasuriya, and S. B. Yatawara.

Tamil.—Messrs. Joubert de Zilva, H. C. Peiris, M. B. Boange, G. Harbord, P. J. Christoffelsz, L. de Z. Jayatillake, T. J. Jayaratnam, L. A. A. Perera, S. B. Yatawara, J. A. Alles, A. B. Attygalle, and P. G. Saminathan.

84. It is with great regret that I record the death in Galle on April 2, of Mr. A. T. Reeve, A.R.C.S., Plant Pests Inspector, Southern, from pneumonia. Mr. T. Petch, B.A., B.Sc., Botanist and Mycologist, retired on August 13 after 20 years' service in the Department, during which time he performed work of the utmost value and importance to the agricultural interests of the Colony. Mr. H. F. Macmillan, F.L.S., F.R.H.S., retired on July 28 from the post of Superintendent of Botanic Gardens. Mr. Macmillan performed 30 years' service in the Colony and was responsible for very considerable improvements in the Botanic Gardens and in horticultural work generally. Mr. G. G. Auchinleck, M.Sc., F.I.C., F.C.S., was promoted to the post of Deputy Director of Agriculture, Gold Coast, as from August 5, and Mr. R. O. Iliffe, M.A., was appointed Paddy Specialist, Madras, as from October 28. Mr. C. Wickramaratne was retired on account of ill-health from October 8, and P. A. Kirihamy, Gardener, Cuddesdon, was retired on account of age on January 1. Mr. R. A. Cameron resigned his post in the Department from November 3 having accepted a post in the Department of Agriculture, Tanganyika, and Mr. J. R. Nugawela, Agricultural Instructor, Uda Dumbara, resigned, with effect from September 23, upon being appointed President of Village Tribunals, Dewamedhi hatpattu of the North-Western Province.

85. The following staff changes took place during the year:—

The Hon. Mr. F. A. Stockdale, C.B.E., Director of Agriculture, who was away on leave, returned and resumed duties on February 9, 1925, relieving Mr. T. Petch who reverted to his substantive post as Botanist and Mycologist.

Mr. G. G. Auchinleck, Divisional Agricultural Officer, Central Division, left for England on January 10. Mr. G. E. J. Hulugalle, Divisional Agricultural Officer, North-Western Division, acting.

Mr. T. H. Holland, Manager, Experiment Station, Peradeniya, who was away on leave, returned and resumed duties on April 8, 1925.

Mr. J. J. Nock, who was away on leave, returned and resumed duties on April 7, 1925.

Mr. R. O. Iliffe, Economic Botanist, left for England on leave on April 29, 1925. Mr. G. V. Wickremesekera, Assistant to Economic Botanist, acting.

Mr. A. W. R. Joachim, Office Assistant to the Director, was appointed Agricultural Chemist on April 1, 1925.

Mr. J. I. Gnanamuttu, Chief Clerk, Harbour Engineer's Department of the Colombo Port Commission, was appointed Office Assistant to the Director of Agriculture on April 1, 1925.

Mr. W. P. A. Cooke, who returned from America, was appointed Divisional Agricultural Officer, Northern, on June 13, 1925.

Mr. G. Harbord, who was acting as Divisional Agricultural Officer, Northern Division, was transferred to the Central Division on June 13, 1925.

Mr. F. Burnett, Divisional Agricultural Officer, Southern, left for England on leave on August 20, 1925, and Mr. G. Harbord, Divisional Agricultural Officer, Central Division, was transferred to the Southern Division.

Mr. N. K. Jardine, Plant Pests Inspector, Central, was appointed to act as Divisional Agricultural Officer, Central Division, from August 17.

Mr. A. H. G. Alston assumed duties as Systematic Botanist on August 3, 1925.

Mr. C. N. E. J. de Mel assumed duties as Plant Pests Inspector on September 8, 1925, relieving Mr. G. Harbord who acted as Plant Pests Inspector, Southern, from August 20.

Mr. W. C. Lester-Smith assumed duties as Plant Pests Inspector on November 13, 1925.

Dr. J. C. Hutson, Entomologist, acted as Director of Agriculture from October 25 to November 28, during the absence of the Hon. Mr. F. A. Stockdale, C.B.E., in India. Mr. F. P. Jepson acted as Entomologist during this period in addition to his own duties.

86. The following appointments took place during the year in the Clerical, Agricultural, Research, and Field Staffs of the Department:—

Clerical.—Messrs. T. B. Bulumulle and N. Subramaniam as Clerks, Head Office, from February 1, 1925. Mr. K. B. Dissanayake as Clerk to Manager, Experiment Station, Anuradhapura, from September 1, 1925.

Agricultural.—Mr. C. A. Perera as Vernacular Instructor from May 11, 1925, *vice* Mr. T. K. D. Samarasinghe. Messrs. S. Sangarapillai and M. A. Samarasingha as Probationers from May 15, 1925. Mr. R. N. Sinnayah as an Officer in Class II. of the Subordinate Service from July 1, 1925.

Research.—Mr. M. S. Mendis, who returned from Poona, was attached to the Plant Pests Inspectorate on April 13, 1925, as a Sub-Inspector. Mr. S. Kandiah as Assistant to the Agricultural Chemist and Mr. Peter de Silva as a Probationer from May 1, 1925. Mr. J. S. T. de Silva as a Probationer from June 1, 1925; Messrs. F. D. Peiris and L. Abeyesundera, who returned from Pusa and Poona respectively, after a course of study, were attached to the Entomological Laboratory and to the office of the Economic Botanist respectively, from July 1, 1925. Mr. A. W. Kannangara as a Probationer from August 15, 1925.

Field.—Mr. S. B. Lenawa as Conductor and Mr. R. B. Hendrick as Upper Gardener from October 1, 1925; Mr. T. Jumat as Upper Gardener from December 15, 1925.

87. The following transfers took place during the year in the Clerical, Agricultural, Research, and Field Staffs of the Department:—

Clerical.—Mr. C. A. Samarasinghe, Clerk, Head Office, as Head Clerk, Southern Division, and Mr. S. C. D. Krisnapillai, Head Clerk, Southern Division, as Clerk, Head Office, from January 15, 1925. Mr. K. B. Alahakon, Clerk, Head Office, was transferred to the Audit Office from March 1, 1925. He was succeeded by Mr. M. V. Selvanayagam from the Audit Office. Messrs. B. D. Chandrasekera, Clerk, Divisional Agricultural Office, Central Division, as Clerk to Agricultural Chemist; T. B. Bulumulle, Clerk, Head Office, as Clerk to Divisional Agricultural Officer, Central Division, from April 1, 1925; Mr. H. M. Rasnayake, Clerk to Economic

Botanist, as Clerk to Divisional Agricultural Officer, North-Western Division; and Mr. M. D. H. Perera, Clerk, Head Office, as Clerk to Economic Botanist from July 1, 1925; Mr. R. S. Goonesekera, Clerk, Kurunegala Kacheheri, was appointed Clerk, Head Office, from July 13, vice Mr. D. H. Wannigama, transferred. Mr. S. Paramagurunathar, Clerk, Head Office, as Clerk to Farm School Officer, Jaffna, from September 28, 1925. Mr. A. A. W. Goonewardene, Clerk to the Manager, Experiment Station, Anuradhapura, as Clerk, Head Office, from October 1, 1925, vice Mr. Paramagurunathar.

Agricultural.—Mr. T. K. D. Samarasinghe, Bee-keeping Instructor, who was transferred from Kegalla to Peradeniya on January 3, 1925, reverted to his post in the Education Department from July 1, 1925.

Consequent on the return of Mr. T. H. Holland, Manager, Experiment Station, Peradeniya, from leave the following transfers took place:—

Mr. V. Canagaratnam, Acting Manager, Experiment Station, Anuradhapura, to the Farm School, Peradeniya, for special duty from May 1, 1925, to August 31, 1925, and as Farm School Officer, Jaffna, from September 5, 1925.

Mr. H. A. Deutrom, Acting Manager, Experiment Station, Peradeniya, as Manager, Experiment Station, Anuradhapura, from May 1, 1925.

Mr. P. B. Kapuwatte, Agricultural Instructor, Matale East, as Agricultural Instructor, Kotmale, and Mr. A. Abeyesinghe, Agricultural Instructor, Kotmale, as Agricultural Instructor, Matale East, from April 1, 1925.

Mr. T. V. Thamotheram, Agricultural Instructor, Experiment Station, Anuradhapura, to Allai Sugar trials, and Mr. J. S. T. de Silva, Probationer, to Experiment Station, Anuradhapura, from August 1, 1925.

Mr. George Madugalle, Agricultural Instructor, Walapane, as Agricultural Instructor, Uda Dumbura, and Mr. T. C. de Silva, Agricultural Instructor, Padiyapellella, to be Agricultural Instructor, Walapane, from December 14, 1925.

Field.—Mr. W. P. de Alwis, Upper Gardener, Royal Botanic Gardens, Peradeniya, as Gardener, Queen's House, Colombo, and Mr. D. W. K. Goonewardane, Gardener Queen's House, Colombo, to Royal Botanic Gardens, Peradeniya, from September 1, 1925. Mr. B. de Alwis, Upper Gardener, Royal Botanic Gardens, as Master Gardener of the Prisons Department from October 1, 1925.

Department of Agriculture,
Peradeniya, April 30, 1926.

F. A. STOCKDALE,
Director of Agriculture.

ANNEXURES.

I.—REPORT OF THE DIVISION OF MYCOLOGY.

MYCOLOGY.

Specimens.—Mycological specimens sent for examination numbered 398. Of these, 199 were tea, 62 *Hevea*, and 16 coconuts. The remaining specimens included diseases of Albizzia, Amherstia, avocado, bael fruit, bandakkai, betel, brinjal, cacao, ceara, cherimoyer, coffee, cotton, custard apple, dadap, Eucalyptus, Eugenia, fig, Gardinia, Gliricidia, Grevillea, Hibiscus Rosasinensis, H. sabdariffa, orange, orchid, paddy, Phyllanthus, Picea, pita, plantain, Poinciana, rose, sugar-cane, Tephrosia, tomato, and *Vigna oligosperma*.

Visits.—Visits have been made by the staff to the Anuradhapura, Bogawantalawa, Colombo, Deltota, Dimbula, Galaha, Gampola, Kadugannawa, Kegalla, Kurunegala, Matale, Nuwara Eliya, and Nanu-oya districts.

HEVEA.

Hevea mildew caused by a species of *Oidium*, similar to, if not identical with, that recently named as *Oidium heveae*, occurred for the first time in Ceylon this year on the young expanding leaves, when the trees were recommencing growth after wintering. The disease occurred simultaneously in many of the rubber districts, at places widely separated. This indicates that the disease is probably not a new introduction to Ceylon but that it is widely distributed throughout the island, possibly on some other plant. The abnormally wet climatic conditions prevalent during the early part of the year when the trees were coming into new leaf probably assisted the fungus to adapt itself to its host. A short account of this disease will be published in the Department of Agriculture Yearbook, 1926.

The trees which were inoculated with *Fomes lucidus* and mentioned in last year's report do not appear to have suffered any ill-effect. This fungus has on occasions been found in association with diseased *Hevea* roots, but, in the absence of positive results from inoculation experiments, doubt must remain as to whether this species is parasitic on *Hevea*.

TEA.

The leaf disease caused by *Cercospora theae* resulted in the loss of a large amount of flush on several estates in the Nuwara Eliya District during the south-west monsoon. This fungus is becoming serious on many estates where Acacias are grown as wind belts or for green manure. As the disease usually spreads from the Acacia to the tea when conditions are favourable, the question of the substitution of other shade trees for Acacias will have to be considered seriously, if outbreaks of such intensity as occurred this year are to recur annually in the south-west monsoon.

The large branch cankers and consequent rotting of the main wood of the frame have attracted considerable attention on many estates. These large cankers in many cases arise directly as the results of certain saprophytic wood-destroying fungi which gain entrance through the pruning cuts. The regular tarring of pruning cuts and exposed wood surfaces will probably prove an effective preventative, but the efficient treatment of already cankered branches is likely to prove more difficult. Experiments are being carried out on several estates to test the efficacy of various coverings or stoppings in preventing further decay. Such treatment will depend to a large extent upon the thoroughness with which the old wounds are cleaned out before the stopping is applied.

The fungus *Macrophoma theicola* which causes cankers on young wood has been found capable of infecting tea leaves. Successful artificial infections have been obtained only when the leaves have first been wounded, though naturally infected leaves have been found in the field. It is not feared that this fungus will give rise to a serious form of leaf disease.

Eelworms have continued to give trouble in some nurseries. Inoculations of tea seedlings with species of *Fusarium* and *Rhizoctonia* referred to in the last report have not been successful. It is of interest, however, that inoculation with *Rhizoctonia solani* on *Sesbania aculeata*, seven weeks old, gave rise to lesions similar to those known on tea seedlings as "Collar rot," and which have been attributed to a species of *Rhizoctonia*.

COCONUTS.

No new disease has been found on coconuts this year and the known diseases of this palm have not attracted much attention. The majority of the specimens sent in for examination have been leaves attacked by grey blight (*Pestalotzia palmarum*). But rot has been caused at the laboratory by artificial inoculations with the *Phytophthoras* from coconut, arecanut, *Hevea*, and cacao.

GREEN MANURES, &c.

A disease of *Vigna* caused by *Rhizoctonia solani* is prevalent on many estates on which this plant is grown as a cover crop. A report on this disease was presented to the Estates Products Committee in September, and a further account of the investigations carried out with this fungus will be published in the Yearbook of the Department for 1926. The same fungus (*Rhizoctonia solani*) has been found in Ceylon on groundnuts (*Arachis hypogea*) together with its perfect stage *Corticium vagum*. In December the same species of *Rhizoctonia* was found on some of the new paddy plots on the Anuradhapura Experiment Station. The extent of the damage this fungus causes to paddy has yet to be determined.

Mr. Park has completed his investigations on the disease of dadaps caused by a species of *Fusarium* and his manuscript has been forwarded for publication in an early number of the Annals of the Royal Botanic Gardens, Peradeniya, and a less technical account will be published in the Yearbook.

A defoliation of *Albizia* was reported from the Dikoya district towards the end of September. Both pollarded and non-pollarded trees were affected, but the disease was less marked in sheltered hollows. A similar case of defoliation was reported from the Maskeliya district in May, but in this case only old leaves of lopped trees were affected. The fungus associated with the spots on diseased leaves could not be isolated nor identified. There was no evidence of the disease having passed to the tea.

MISCELLANEOUS.

A short review of the investigations to determine the cause of bunchy top of plantains was given at the September meeting of the Estates Products Committee and was later published in the daily press. A fuller account has been submitted to Government. Since then the Bunchy Top Investigation Committee in Australia have issued an important publication in which definite proofs are offered that the disease is due to a virus which is carried by aphids.

A species of *Phytophthora* (or *Pythium*) has been isolated from *Hibiscus sabdariffa* var. *Victor* from the Experiment Station, Peradeniya. This fungus is associated with a disease of roselle plants which attacks them at the collar and then progress upwards killing the cortex of the stem as it goes. It also causes a damping off of the seedlings.

A splitting of the rind of the Mandarin oranges at the time of ripening was reported from Diyatalawa in May. No fungi were associated with this condition, and the evidence available indicates that the splitting is due to heavy rains falling at this time. The rind splits owing to the failure of the rind to keep pace in growth with the expansion of the pulp consequent to the rainfall. It is of interest that only Mandarins imported from Australia showed this condition, and that the fruit from similar trees imported from India did not split. This may be correlated with the fact that the fruits of the Indian trees ripen somewhat later than those of the Australian stocks, and at a time when climatic conditions are drier.

A species of *Rhizoctonia* has been isolated from wilted betel vines growing in the Ratnapura District. These vines had been planted out on land which has previously carried tobacco. The tobacco had failed owing to disease. The *Rhizoctonia* from betel resembles *R. Solani*, but so far sclerotia have not been found. Inoculation experiments with this fungus on betel vines and cuttings at Peradeniya have failed to reproduce the disease.

The false smut of paddy (*Ustilaginoidea virens*) occurred in the Ruwanella district, and rice blast (*Piricularia oryzae*) has been reported from several districts. *Rosellinia* was found associated with a root disease of *Tephrosia candida* and *Ramularia areola* with a leaf disease of cotton.

Experiments with various fabrics for the Fabrics Co-ordinating Research Committee of the Department of Scientific and Industrial Research have been carried out at Peradeniya. These will be terminated early in 1926.

PUBLICATIONS.

Part 3 of Vol. IX. of the Annals of the Royal Botanic Gardens, Peradeniya, containing a number of mycological papers, was published in August.

Bulletin No. 71: Entomogenous Fungi and their use in controlling Insect Pests by T. Petch.

February 2, 1926.

C. H. GADD,
Acting Mycologist.

II.—REPORT OF THE WORK OF THE ENTOMOLOGICAL DIVISION.

The consignments of specimens for examination and report received during the year numbered 153, and included insect pests from all the more important crops and from miscellaneous plants.

During 1925 visits were paid by the staff to estates in the following planting districts to investigate insect pests:—Kandy (twice), Hunasgiriya, Madulkele, Kelebokka, Punduloya, Nuwara Eliya, Badulla, and Galle (twice).

COLOMBO FUMIGATORIUM.

During the first six months of the year the number of packages treated at the Fumigatorium was about normal. From June 1 the inspection of all seed packets was started and this meant an enormous increase of packages to be handled. During the last half of the year there was also a great increase in the number of cases of citrus fruits, mostly oranges, which passed through the fumigatorium. The total number of packages which were dealt with by the inspection and fumigation service were 4,248, of which the great majority were seed packets and cases of oranges.

PERADENIYA FUMIGATORIUM.

During the year a new fumigatorium and store shed has been built in the compound of the Entomological Laboratory.

INSECT PESTS.

Tea.

The investigations in connection with shot-hole borer (*Xyleborus fornicatus*) were concluded by the Assistant Entomologist during the first half of the year. A final report on manurial experiments in connection with the control of shot-hole borer and a review of all the literature relating to shot-hole borer are in course of preparation. This division is indebted to Dr. C. H. Gadd of the Mycological division who has kindly undertaken, as on previous occasions, the interpretation of the results of the shot-hole borer experiments.

The investigation of termites (*Calotermes* spp.) has been started by the Assistant Entomologist, but no definite information can be given at the present time. Early in 1926 visits will be paid by the investigator to some estates in Dimbula and Maskeliya where *Calotermes militaris* is known to be prevalent.

Calotermes dilatatus continues to be prevalent on some of the Low-country tea areas.

Tea tortrix (*Homona coffearia*) has been prevalent in the Dimbula and Maskeliya districts and is to be the subject of special investigation by the Entomologist and the Assistant Entomologists in those districts during the early part of 1926.

Among the more important caterpillar pests may be mentioned the following:—Red slug (*Heterusia cingala*) on an estate in the Galaha district; Lobster caterpillar (*Stauropus alternus*) on an estate in the Wattagama district; and the fringed nettle-grub (*Natada nararia*) on an estate in Dolosbage.

The continued prevalence of green bug (*Coccus viridis*) and brown bug (*Saissetia hemispherica*) on some estates near Haputale and Bandarawela led to the sending out of a circular letter with a questionnaire on these pests, which are to be investigated further by an Entomologist in 1926.

Tea mites, especially the "red spider" (*Tetranychus bioculatus*), the yellow mite (*Tarsonemus translucens*), and the purple mite (*Phytoptus carinatus*) have been prevalent during the year on several estates.

Rubber.

The stems of diseased rubber trees on an estate in the Galle District were found to be attacked by the termites *Calotermes dilatatus* which were also invading the more healthy tissues.

Glyptotermes ceylonicus and *Eutermes* sp. were also found in rubber trees in a more advanced state of decay.

Coconuts.

No serious outbreaks of the coconut caterpillar (*Nephantis serinopa*) have occurred during the year. This caterpillar is periodically prevalent on some estates in the Western and North-Western Provinces and in the Batticaloa District of the Eastern Province, but is being controlled under the Plant Protection Ordinance.

The campaign against the black beetle (*Oryctes rhinoceros*) and the red weevil (*Rynchophorus ferrugineus*) has been continued during the year under the Plant Protection Ordinance in the Southern Province and in the Batticaloa District of the Eastern Province.

Among minor pests of coconut leaves may be mentioned the spotted locust (*Aularches miliaris*), and the caterpillars of the large butterfly (*Elymnias fraterna*).

Paddy.

In June an outbreak of a swarming caterpillar or "army worm" occurred in a few villages in Kandy District. This pest proved to be *Leucania venalba* which is usually a minor pest of paddy. In the absence of water in the fields it happened that in some areas the plants were eaten down to the ground. The outbreak was investigated in the field by the Inspector for Plant Pests and Diseases, Central Division. The life history of this pest has been worked out in the Entomological Laboratory and drawings of the different stages have been made.

Cacao.

The outbreak of the large caterpillar *Taragama dorsalis* which attacked dadaps shading young cacao on an estate in the Kandy District towards the end of 1924 was finally controlled early in 1925 by a drastic campaign, as described in an article which appeared in the *Tropical Agriculturist* for July, 1925.

Cotton.

No serious injury to cotton by insect pests appears to have been done during 1925, but the pink boll worm (*Platyedra gossypiella*), the boll worms (*Earias* spp.), and the red bug *Dysdercus cingulatus* were present to some extent on cotton areas.

Green Manure and Shade Trees.

Outbreaks of the spotted locust (*Aularches miliaris*) occurred on two estates in the Madulkele district, dadap (*Erythrina* sp.) being the favourite food plant. On one of these estates about 150 acres of dadaps growing among the tea were attacked and patches of dadaps were stripped of their leaves and bark. The same pest also occurred on an estate in Pussellawa. An article on the spotted locust will appear in the Yearbook of the Department of Agriculture for 1926. Outbreaks of the small tussock caterpillar (*Notolophus posticus*) occurred on dadap during the year and the life history of this pest was studied. The results of the investigation are being published in the Yearbook for 1926.

The leaves and pods of crotalaria growing on the Experimental Station, Peradeniya, were attacked by the caterpillars of *Argina argus*, *A. syringa* and *Utetheisa pulchella*, and the caterpillars of *Euproctis* sp. attacked the leaves. The life histories of the *Argina* spp. have been worked out.

Albizia trees on an estate in the Kelani Valley have been defoliated by the caterpillars of the yellow butterfly *Terias silhetana*, and of the large noctuid moth *Hylodes caranea*.

The leaves of *Indigofera endecaphylla* were eaten by the caterpillars of the small moth *Dichomeris ianthes* in two localities.

Vegetable Crops.

The investigations on the pests of vegetable crops by the Assistant in Entomology have been continued during the year. Among the insects which have received special attention are *Aulacophora stevensi* and *Epilachna* spp., beetle pests of snake-gourd; *Hymenia fascialis*, a caterpillar, on beet root; *Bagrada picta*, a pentatomid bug on mustard; and *Disphinctus politus*, a capsid bug on chillies.

Miscellaneous Plants.

A plantation of croton oil trees (*Croton tiglium*) was damaged by the caterpillars of *Amyra punctum*; and the leaves of mango (*Mangifera indica*) were eaten by the caterpillars of *Orthaga euadrusalis*. The pests of toona, mahogany, milla (*Vitex altissima*), and plantains (*Musa* spp.) are the same as those mentioned in the annual report for 1924. The life history of the curry leaf beetle (*Silana farinosa*) has been worked out and the results of the investigation are being published in the Yearbook for 1926.

Special Investigations.

Copra beetles.—At various times reports have been received from a Colombo firm that their stored husked coconuts are attacked by small beetles. The Entomologist investigated the pests in Colombo and experiments conducted at Peradeniya have indicated that the beetles (mainly the small nitidulid *Carpophilus* sp.) attack nuts which have been cracked or damaged in the soft eye, but that they are not liable to infest sound dry nuts. The investigation is being continued and the life history and habits of the pest are being studied.

Mahogany Borers.—Towards the end of March the Entomologist investigated an outbreak of a boring caterpillar in young mahogany plantations in the Southern Province. This proved to be the red borer or coffee borer (*Zeuzera coffeae*).

House Flies and Manure.—This problem has been investigated by the Assistant Entomologist during the first half of the year, and a full report has been submitted for publication as a Bulletin of this Department.

Eye-flies.—Investigations are being carried out by the Assistant in Entomology with the object of trying to discover where the eye-fly (*Siphunculina funicola*) breeds and whether any substances are particularly attractive to them, but no definite information can be given at the present time.

Other Pests.

The snail (*Achatina fulica*) has been prevalent in the Deniyaya district and control measures have been undertaken by the Plant Pest Inspectorate, Southern Division. A large number of snails and egg-masses have been collected and destroyed.

A small snail (*Helix convexiuscula*) has been reported to be a pest of garden plants in Batticaloa.

INSECTARY.

The life histories of several important insect pests have been worked out during the year by the staff of the Entomological Division.

ILLUSTRATIONS.

The preparation of black and white drawings and coloured plates by the Draughtsman has been continued during the year in illustration of the various stages of some of the insects mentioned in this report.

AGRICULTURAL SHOWS, LECTURES, &C.

Exhibition cases illustrating the more important insect pests of the principal crops of the Island were sent for exhibit at the Agricultural Show held at Badulla. Exhibits of crop pests have been lent to the Inspector for Plant Pests and Diseases, Central Division, to illustrate lectures on insect pests.

The Entomologist gave a lecture on "Tea Termites" to the Sabaragamuwa Planters' Association in April, and took part in the discussion on "Tea Tortrix" at a meeting of the Planters' Association of Ceylon in Kandy in November.

PUBLICATIONS.

The following bulletin has been prepared for publication, in addition to the articles which will appear in the Yearbook for 1926:—"House Flies and Their Connection with manuring Operations on Estates in Ceylon," by F. P. Jepson. Bulletin No. 74.

J. C. HUTSON,
Entomologist.

January 18, 1926.

III.—DIVISION OF PLANT PESTS AND DISEASES INSPECTION.

CENTRAL.

Office.—The number of "In" letters was 5,861, of which 4,084 were reports on inspections, and the "Out" was 1,267.

Filing System.—With the operation of the Plant Protection Ordinance, No. 10 of 1924, an extension and rearrangement of the filing system of the office was necessary. This was completed early in the year. All duplication of information is obviated and the system extends automatically to meet all requirements occasioned by the Ordinance.

Permits.—The number of permits issued during the year for the sale of tea plants, and the number of plants sold under permits is as follows:—

Number of permits, 1925	...	357	Number of plants, 1925	...	4,020,253
Number of permits, 1924	...	226	Number of plants, 1924	...	2,755,116
		Increase	...	Increase	...
		181		1,265,137	

Circuits.—This year, as in last year, more attention has been given to village cultivations than to estates. The Division has methodically carried out educational propaganda among the villages; every inspection of a garden or garden tea nursery has been the occasion for demonstrations and "talks" with the owners and those directly interested. There is no doubt that the interest of the small cultivator is being steadily aroused and centred round the value of agricultural methods of plant sanitation.

		Estates.	Gardens.	Nurseries	Acreage.	Total Days.
Circuits in 1924	...	78	1,151	39	36,244½	255½
Circuits in 1925	...	98	4,084	79	39,313¾	469½
Increase	...	20	2,933	40	3,069¼	214

The reason of the Plant Protection Ordinance and its factors for the protection of village and general agriculture is being steadily comprehended by the villager. This is particularly apparent in the total for requests for permits for the sale of tea plants. The excess of 131 permits over last year, with a total excess of 1,265,137 plants leads one to believe that the village cultivator is beginning to realize that this particular part of Government machinery is for his good and protection. That there has been a considerable reduction in the prosecutions for sale of plants without permits leads to a substantiation of this view.

Meetings.—The following District Agricultural Committee Meetings were attended by the Inspector:—

Nuwara Eliya, March 2; Matale, May 1, November 15; Kegalla, November 2; Kandy, December 9; also the Meetings of the Board of Agriculture held on March 12 and September 12; Estate Products Committee Meetings of May 9 and September 12.

Lectures.—Lectures at which cultivators were addressed on pests and diseases, plant sanitation, and agriculture generally, were held in the following villages:—

June 13 and 14, Ampitiya; June 28, Alawatugoda; July 30 to August 5, Kandy (Rural Industries Exhibition); September 16, Kadadora; September 20, Sandilipalama; October 24, Arambegama; November 1, Atabage; December 13, Nattaranpotta; December 20, Aludeniya.

These meetings were well attended, the addresses were illustrated by specimens and pictures kindly lent for the purpose by the Mycological and Entomological Divisions; they were further illustrated by posters and leaflets in the vernaculars. Very considerable improvement has been made in interesting the village cultivator in progressive cultivation and plant sanitation.

Lantern Slides.—The collection of lantern slides has been added to considerably during the year, the major pests and diseases are now complete. Thanks are due to Dr. C. H. Gadd for the assistance he has rendered the Inspector in the matter, and for the facilities for the study and practice of photography placed at the disposal of Sub-Inspector Pinto.

Rambukkana Plantain Plots.—In co-operation with the Divisional Agricultural Officer a new series of soil sterilization tests and variety trials in regard to bunchy top disease were opened on these plots during the last quarter of the year. The sterilization tests were carried out on the lines suggested by Dr. Gadd. These tests when completed will be the subject of a separate report.

General.—Shot-hole borer though prevalent generally does not appear to be spreading unduly. There are no records in this office, of estates previously free being infested during the year.

Tea Tortrix.—Only three records of this pest have been sent to this office by estates. Spasmodic endeavour to enhance the seriousness of local outbreaks has been apparent, but it is considered the pest has been no worse this year than in former normal years.

Paddy swarming caterpillar or army worms (*Leucania venelba*): An outbreak of this pest of paddy occurred in the villages of Ampitiya, Kossinna, and Talatuoya of the Kandy District, measures for its eradication were immediately adopted. There has been no reoccurrence of the insect.

Spotted locust (*Aularches miliaris*) shows signs of considerable annual development, and if not watched, it may, it is believed, become a pest of serious importance.

The coconut caterpillar (*Nephantis serinopa*) and the two main coconut beetles continue to cause trouble.

The *Calotermes* species of termite continue to cause anxiety in the tea districts.

Cosmopolites sordidus and *Odioporus longicollis* are general throughout the plaintain-growing areas.

With the exception of a *False Smut* on paddy no disease of an unusual nature has been recorded during the year.

Water hyacinth made its usual appearance in the areas known to be infested at Kandy, Gampola, and Ambepussa.

Bunchy top would appear to be on the decrease as it is by no means so prevalent this year as last, and numerous areas that suffered badly from the disease are being replanted.

N. K. JARDINE,

Inspector, Plant Pests and Diseases (Central).

SOUTHERN.

INSPECTIONS AND CIRCUITS.

Inspections of estates, gardens, and paddy fields were carried out in all the districts of the Division (Kalutara, Galle, Matara, and Hambantota).

The total circuits by the whole staff during the year comprised 348 days.

In all 150 estates comprising an acreage of 19,293 acres were inspected.

The crops consisted mainly of coconuts and rubber, but other crops inspected included paddy, tea, cotton, and citronella.

SPECIAL WORK.

Lectures.—Lectures and demonstrations, explaining the Plant Pests Ordinance, and major and minor pests of the respective local crops were given in the vernacular by the inspectorate. A total of 21 lectures were held at suitable centres during the year, the numbers delivered in the different districts being as follows:—Kalutara 3, Galle 9, Matara 6, and Hambantota 3.

The number present at these lectures was on the whole very fair, the average attendance was 60 persons, and the audiences in most cases showed an interest in them.

The valuable and ready assistance in arranging these lectures given to the inspectorate by the various Mudaliyars concerned was greatly appreciated.

Snail Pest.—A serious outbreak of the African snail (*Achatina fulica*) known locally as the Kalutara snail, was reported from Deniyaya (Matara District) in April.

This matter was investigated and measures in the form of hand collecting and destruction of the snails and the destruction of the egg masses by means of Tamil labour were commenced.

The co-operation and assistance of the Morowak Korale Planters' Association and the neighbouring estate owners in this campaign was of great assistance.

The disinclination of the villagers, for religious reasons, to assist in the eradication of this pest has presented great difficulties in the matter of checking its spread.

A further investigation into the spread and possibilities of checking this pest will be made next year.

Water Hyacinth (*Eichornia crassipes*).—In all some 228 tanks were inspected for this weed, the majority of these being in the Hambantota District (East and West Giruwa pattus).

It is not considered that there has been any marked decrease of this pest during the year.

In some cases the destruction of the heaps by burning is not possible owing to weather conditions.

Paddy Fly.—The paddy fly (*Leptocorisa varicornis*) is the chief pest of paddy in the Southern Province.

Experiments for its control were made on the Kobowella Experiment Station.

These experiments made when the paddy was coming into flower, indicated that, at this stage, "bagging" was the most effective method of control, provided that cultivators can be induced to adopt the practice.

GENERAL.

Specimens.—Specimens of the following plants were received for the indentification of pests and diseases attacking them:—Plantain, coconut, cotton, tea, and paddy. These consisted of commonly occurring pests and diseases.

PESTS AND DISEASES.

Most of the commonly occurring pests and diseases of the major field crops were recorded as during the previous year.

Pests.—There are no indications of any increase of any of the principal pests.

A snail belonging to the family Ampullaridae was collected from Wellaboda pattu (Matara District) where it was found attacking the broadcasted paddy seeds shortly after germination.

Diseases.—With the possible exception of stem-bleeding disease (*Thielaviopsis paradoxa*) of coconuts, there were no indications of the increase of any recorded disease. An apparently unrecorded disease of citronella grass (*Cymbopogon* sp.) was collected towards the end of the year.

Field observations on this disease will be made during the coming year.

Two other diseases recorded were blast (*Pricularia oryzae*) on paddy, and a bacterial rot of betel.

Bunchy Top Disease of Bananas.—This disease is still prevalent in this division, especially in the Matara and Hambantota Districts.

The apparent decrease of the disease in the Kalutara and Galle Districts is considered to be only apparent, and due in reality to the decrease in the planting up of bananas in these districts.

W. C. LESTER-SMITH,
Inspector, Plant Pests and Diseases (Southern).

BATTICALOA.

EDUCATION.

Lectures and Demonstrations.—The main work during the year under review was an educational campaign amongst coconut planters, paddy land owners, and plantain cultivators on the importance of controlling the various pests of these crops. Demonstrations were given at various centres in coconut estates, paddy fields, and plantain gardens on the different methods of controlling the various pests and diseases successfully.

Demonstration lectures were given on the controlling of paddy fly, swarming caterpillar of paddy, bunchy top of plantains, and coconut pests at the agricultural shows, and cultivation meetings held during the year.

Schools.—Lectures were given in schools on the controlling of pests on garden crops, paddy, and coconuts. A series of lectures were given at Kalmunai English schools on "how a schoolboy can contribute towards the improvement of agriculture in this district," and eight prizes were awarded at the Kalmunai show for the best essays written by the schoolboys on the subject.

COCONUT.

Coconut Caterpillar (Nephantis serinopa).—The pest received the closest attention of the Inspector and cutting and burning of the infested leaflets is in progress. There was again an outbreak of this pest in five localities of this district. The work is carried on by inducing the planters to adopt control measures. Shortage of labour and want of permanency in the labour force of the estates have been a great handicap for effective works on estates where regular gangs are employed for adopting the measure, controlling of pest has been comparatively easy and the pest rarely got the better of the planter.

Black Beetle (Oryctes rhinoceros).—This was on the decrease compared with the previous years. Many trees died during the last long drought. Large number of dead trees and stumps were either buried or burnt to prevent the beetle breeding during the year under review. The largest number of beetles caught in the estates during the year was in December and the smallest in June.

Red Weevil (Rhynchophorus ferrugineus) was on the decrease, compared with the last year. This was found in fairly large numbers in April, May, and June of this year. But last year the increase was well marked in May, June, and July.

Whether husks buried in holes before planting coconut seedlings breed black beetles?—This question received the closest attention. It was found that the burial of husks before planting out the seedlings in the field does not form breeding grounds, but it conserves moisture for the use in dry season and during floods it affords a good drainage. Larvae of black beetle found near the buried husks were the grubs of the beetle that made their way from the collar of the decayed plant down to the husk of seed nut. This has showed that the dead seedlings should not be kept in the field more than a month.

PADDY.

Swarming Caterpillar (Spodoptera mauritea).—The damage done by this pest was not so serious as it was in the previous year. The pest appeared again this year in large numbers and attacked the "Yala" (S.) or "Kalapoka Vellami" (T.), and to a lesser extent the "Iddaipoka Vellamai" (T.) or intermediate crop. Timely action was taken by the Vel-Vidanes, cultivators, and Superintendents of Irrigation, and the pest was controlled by flooding and destroying the young caterpillars.

Paddy Fly (Leptocorisa varicornis).—This continued to do considerable damage to the paddy crops. A campaign was started after the good results obtained with hand nets at a comparative demonstration held with hand nets and smeared winnows at the Kalmunai agricultural show, and with about 100 hand nets that were got made by the Government Agent, Eastern Province, Inspector held demonstrations at various centres of the district. It was found that the bunds in paddy fields should be closely built and made firm to get good results with hand nets. This method of building bunds closer according to the levels of the land will, in addition, save a large amount of water yearly and hence more land could be brought under cultivation.

Stem borer of paddy (Schoenobius bibunctifer).—This is another pest that has done some damage to the crops. The pest was well distributed in Paddipalai-arū Scheme under “Iddaipoka Vellamai.”

Minor Pests.—The following pests were recorded during the course of inspection:—*Nymphula depunctalis*, *Parnara Mathias*, *Cnaphalocroces medinalis*, field rats, and koolanandu (T.) crab.

PLANTAINS.

Bunchy top of plantain was prevalent in Wewagam, Sammanturai, Manmunai North, and Karawaku pattus. The disease, though slight, was well distributed in Wewagam pattu. The gardens were visited and preventive measures were adopted, and now the disease is under control.

January 30, 1926.

M. R. M. JEBARATNAM,
Sub-Inspector, Plant Pests and Disease, Batticaloa.

IV.—REPORT OF THE CHEMICAL DIVISION.

The opening of the Chemical Laboratory by H. E. Sir William Manning took place on March 12, 1925, in the presence of a large and representative gathering, and the present division commenced work as from April 1.

GENERAL CHEMICAL WORK.

This report deals only with work that has been done by this division since its inauguration in April, 1925. The Laboratory having been established primarily for purposes of research, the greater part of the time was devoted to research work. Analytical work, however, took no inconsiderable portion of the attention and time of the staff. Such analytical work, as was done, was undertaken mainly for the different Experiment Stations and Divisions of the Department, or whenever any particular problem relating to Soil Science and Agricultural Chemistry presented itself.

ANALYTICAL WORK.

No less than 48 different samples of soils, agricultural products, &c., were analyzed during the period under review. They comprised the following:—

Soils.—Twenty-five analyses (both mechanical and chemical) of soils were made. Of these 15 were from the tea manurial experiment plots at the Experiment Station, Peradeniya; 4 from the Coconut Trial Ground, Chilaw; 1 from the Iranamadu Paddy Experiment Station; 3 from Padukka, and 2 from Polgahawela. Analyses of the two latter series of soils were carried out because of the nature of the problems connected with them.

Grasses.—Four samples of grasses, 3 from the Experiment Station, Peradeniya, and 1 from the Government Farm at Ambepussa were analyzed for their feeding values.

Silage.—One sample of silage from the Farm School, Jaffna, was analyzed.

Green Manures.—Two analyses of these were made.

Palm Oil.—Two samples of palm oil from the Experiment Station, Anuradhapura, prepared by the “Soft Oil” and “Hard Oil” processes as described in the Nigerian Bulletin on Oil Palm, were examined and analyzed. Analyses showed that these oils compared favourably with the best West African oils.

Fibres.—Analyses of 3 samples of residues from the sisal hemp decorticating mills; 3 samples of lake weed from Puttalam; and 1 sample of oil palm fibre were made to ascertain their manurial values. None of them was found particularly suitable for manurial purposes.

Tobaccos.—Two samples of White Burley tobacco, one from the Experiment Station, Jaffna, and the other from the Nalanda Experiment Station were examined and analyzed. The Jaffna tobacco contained more chloride than the Nalanda sample, and that probably accounted for its relatively poor burning quality.

Poonac and Bran.—Analyses were made of 2 samples of poonac for feeding values, and 1 sample of bran from Sravasti estate, Anuradhapura, for feeding and manurial values.

Manures.—Two samples of nitrate of soda were examined and analyzed for potash as impurity.

Milk.—Analytical determinations of the specific gravity, fat and total solids of several samples of milk were made.

RESEARCH WORK.

An investigation was begun in April “On the Yield and Composition of Milk from the Farm School Dairy, Peradeniya.” Over 300 samples of milk were analyzed, daily analyses of both morning’s and evening’s milk having been made. The results of the investigation demonstrated the relation between the “quality” and “yield” of the milk and how they were affected by frequent changes in rations. A full account was published in the September, 1925, number of the *Tropical Agriculturist*.

Following on this was started a preliminary investigation on "The Absorption of Fertilizers by Ceylon Soils." The objects of the investigation were: (1) to ascertain the relative absorption of soluble fertilizers by Ceylon soils; (2) the amount leached from such soils by the addition of definite quantities of water. Attempts were made to obtain in the laboratory conditions as nearly natural as possible. The experiments have shown that, in the matter of absorption, Ceylon soils behave no differently from the soils of other countries. The nitrates of soda and of potash are least absorbed, whilst superphosphate and the sulphates of potassium and ammonia are absorbed to the greatest extent. Chloride of potash occupied an intermediate position. As for the amount lost through leaching, the experiments demonstrated that on level land there is not such a loss of fertilizer through rainfall as is commonly supposed. Details of the work done and full results obtained have been prepared for publication.

The next line of research undertaken was the decomposition of green and organic manures under Ceylon conditions. Preliminary field experiments on the decomposition of green manures in soils were started in collaboration with the Manager, Experiment Station, Peradeniya, early in December, and satisfactory progress has already been made. Simultaneously, laboratory experiments on the decomposition of both green and organic manures were initiated, results of which are now being obtained.

The Chemist has also been associated with the Manager, Experiment Station, Peradeniya, in the latter's experiments on soil erosion. Details of the method of estimation of erosion were worked out in conjunction with the Manager. Determinations of "Suspended Matter" and "Moisture" in the muddy liquids and soil residues respectively, will be periodically made in the laboratory commencing in January.

In connection with soil investigational work of which mention has been made, the Chemist paid a visit to a papaw plantation at Polgahawela to investigate the cause of the poor condition of the plants on certain areas of the estate. The stunted growth was attributed to the hard lateritic nature of the soil and its deficiency of plant food, chiefly potash and phosphates. Analyses of the soil confirmed the opinion held that soil deficiency was the cause of the trouble.

Three soils of a similar nature were received from Padukka, where rubber trees 15 years' old were reported to be of stunted growth. Analyses of these soils showed that this phenomenon was a result of the hard cabooky nature of the soil, with a consequent lack of the necessary plant food.

MISCELLANEOUS.

In addition to the work already outlined, the Chemist supervised the fitting up of furniture and special apparatus and the laying of water and gas to the different rooms of the Chemical Laboratory, as well as the erection and working of the Mansfield gas plant ordered out from India. All the rooms are now completely fitted up and the laboratory almost fully equipped with up-to-date laboratory appliances and conveniences.

On October 19, 1925, the Director of Agriculture unveiled, in the corridor of the laboratory, in the presence of a large gathering of Departmental Officers, a photograph of the late Mr. M. Kelway Bamber presented by the Staff Officers, and in doing so paid an eloquent tribute to the great work done by the late Mr. Bamber in the field of Agricultural Chemistry.

PUBLICATIONS.

The only publication on original work done during the period appeared in the *Tropical Agriculturist* entitled "An Investigation into the Yield and Composition of Milk from the Farm School Dairy, Peradeniya," by A. W. R. Joachim.

A Bulletin on "A Preliminary Investigation on the Absorption of Fertilizers by Ceylon Soils" is in the press.

A. W. R. JOACHIM,
Agricultural Chemist.

V.—REPORT OF THE DIVISION OF ECONOMIC BOTANY.

PADDY SECTION.

DURING the year under review several strains of pure-line paddies, selected at Anuradhapura, were tried out at various centres. Great differences between the expected and recorded ages of maturity were experienced when the strains were moved from Anuradhapura. To obviate this difficulty the opening up of 19 Paddy Trial Stations, 3 to 5 acres in extent, were sanctioned during the year. The preliminary work at these stations is to test the existing pure-line strains with a view to ascertaining the suitability of one or more strains for each tract. Sixty bushels of different strains of long-term paddies are being tested at the Paddy Trial Stations at Katugas-tota, Kurunegala, Madampe, Mahagama, Galle, Matara, and at one station at Negombo under the supervision of Gate Mudaliyar A. E. Rajapakse. Eighty-seven bushels of short- and mid-term paddies are being tested at Ratnapura, Godakawela, Paranthan, Kanniyai, Batticaloa, and Badulla.

At the Experiment Stations at Peradeniya and Anuradhapura pure-line cultures of the most popular paddies sent in by the Agricultural Instructors were established. At Katugastota, B-12, a pure-line extract of kohumawi from the Central Province of 5½ to 6½ months' duration has continued to maintain its superiority over the local varieties. This strain has been introduced to the neighbouring villages of Ranawana and Dunuwila and were sown for maha. Of the short-

and mid-term strains tested at the same centre, Hk-13, a pure-line extract of kalu heenati from the Province of Uva, and Ho-33, a pure-line extract of Karuppu Cheenatti from the Northern Province proved to be superior to the local heenati. At Pussella and Bogamuwa, G-1, a pure-line extract of mahamawi from the Western Province has given better results than local varieties. This strain has been introduced to Narammoluwa, Halpankotuwa, Jakaduwa, Wewagedera, Pilessa, Kurunegala, and Madampe, and over 70 bushels of it were sown for the maha season.

About 455 bushels of selected pure-line seed paddy from the last maha harvest were made available to cultivators at the rate of Rs. 2 per bushel. Over 335 bushels were sold.

Work of the Year: Maha Season, 1924-25.

Anuradhapura.—The selected 13 strains of Anaikodan, 5 of Illankalayan, 24 of Tillanayagam, and 6 from the Economic Botanist, Coimbatore, were transplanted and the crop harvested. The 6 strains from Coimbatore still yield poor results.

Forty-three strains comprising the main series were harvested. Rain interfered with the harvesting operations to some extent. The cultivation experiment was carried out on the same lines as in the previous year and records made.

Kandi murungan was broadcasted on the 6 new fields opened on and round about the site on which the old hut stood. The Peradeniya series, repeated exactly as last year for consistency of performance, were harvested and the yields recorded.

In spite of the fact that the fields in the new area were aswedumized for the first time, the results obtained by broadcasting the different pure-line strains for seed multiplication were very satisfactory.

Peradeniya.—The 15 strains comprising the main series were harvested. Of the 365 samples of paddies sent by the Agricultural Instructors, 6 samples flowered very late and rain and paddy-fly destroyed them completely. The remaining 359 samples were harvested separately.

Ten varieties of the 61 differently named varieties failed to germinate. Twenty plants of each variety of the remaining 51 varieties, exhibiting as many different characteristics as possible, were selected for sowing next season and recording their botanical characteristics.

Two additional areas of plots Nos. 3 and 6 were broadcasted with Hetadawi.

The green manure sown on the Totadeniya fields were cut down and ploughed in.

Yala Season, 1925.

Anuradhapura.—This season the mid- and short-term paddies were put down on a field scale and transplanted in the ordinary way in plots 8 feet $\times$ 140 feet with two repetitions of each.

Series I.—Over $4\frac{1}{2}$ months' duration: 10 strains.

Series I.—Over $4\frac{1}{2}$ months' duration: 10 strains.

Series II., Lot A.—3-4 months' duration: 17 strains.

Lot B.— $4-4\frac{1}{2}$ months' duration: 15 strains.

The 4 varieties from Dr. C. A. Hewavitarne's farm under the Kirindi-oya and 4 varieties from the Northern Province were sown for establishing pure-line cultures. Of these 2 varieties from the Northern Province flowered very late and failed to set seed. The varieties supplied by the Hon. Mr. H. R. Freeman for selection for local use were sown, but 3 of these flowered later and failed to set seed. Florida paddy (bintara bata) was sown in five marshy plots of about an acre in extent. This variety promises to be suitable for water-logged fields. The fields in the new area where the strains were broadcasted for seed multiplication gave very satisfactory yields.

Cement concrete pipes were laid under the road leading to the paddy store to conduct irrigation and drainage water.

Peradeniya.—Continuous rain fell during the flowering period, and on more than one occasion the entire area was submerged. Consequently the results were poor.

Series I.—Over $4\frac{1}{2}$ months' duration: 8 strains were sown at the rate of 2 measures per plot, and transplanted in the ordinary way in duplicate plots of about 1,500 square feet.

Series II., Lot A.— $3\frac{1}{2}$ -4 months' duration: 7 strains were sown a month later than Series I. and transplanted in duplicate plots. Lot B., $4-4\frac{1}{2}$ months' duration: 6 strains were transplanted.

407 pure-line cultures established last year from paddies sent by the Agricultural Instructors were sown in small plots and detail botanical records made. One and a half bushels of unselected Florida paddy were broadcasted on the plots above the road. Growth was satisfactory, but rains during flowering season prevented most of the grain from setting.

The green manures on the yala fields were cut down and ploughed in.

Maha Season, 1925-26.

Anuradhapura.—This season 4 strains of the main series, not included in the last maha crop, were sown along with the 43 strains sown last year, as these strains were being tested at various centres. The 47 strains were sown in nurseries and transplanted in the usual way into single plots.

The 17 lines from Peradeniya were also sown in nurseries and transplanted.

The cultivation experiment was sown in the same manner as in the previous year. The selections of Anaikodan, Illankalayan, Tillanayagam, and the Economic Botanist's paddies from Coimbatore were sown in nurseries and transplanted.

Small plots of Florida paddy, Muppangan, Mahasuduwi, Savarakooran, Rathkarayel, Black Illankalayan, Sinnanayan, Ratapodiwi from Negombo, and Hodarawala from Anuradhapura were sown broadcast, with a view to establishing pure-line cultures of each variety.

Two samples of paddy received from the Kogoshima Imperial College of Agriculture and Forestry, Japan, failed to germinate.

The grain moth, *Sitotroga cerealella*, is very bad on the stored paddies at this station, and this has necessitated the fumigation of all the paddies and the consideration of a more satisfactory method of storage.

Peradeniya.—Owing to the increase in the number of pure-line cultures of the paddies sent by the Agricultural Instructors the main series were moved to the fields belonging to the Farm School. All the field operations in connection with the sowing and transplanting were done by the students, and duplicate plots of each strain with a control plot of Hatiel were put down.

About 950 selections from the 51 differently named samples sent in by Agricultural Instructors were sown in strips of 30 seeds, each 2 inches apart, with alley ways of 2 feet separating each strain.

The pure-line cultures of the single ear-heads of paddies sent by Agricultural Instructors were sown in plots 6 feet × 6 feet and separated by alley ways of 3 feet.

The 5 Hatiel selections were transplanted in standard size plots with 10 repetitions of each.

Half the material from the single ear-heads of paddies selected at Kobowella was sown in small culture plots. The other half was sown at Kobowella.

Ratapodiwi from Negombo, Perillavel and Murungakai from Batticaloa were broadcasted for establishing pure-line cultures.

Two samples of paddies from the Kogoshima Imperial College of Agriculture and Forestry, Japan, failed to germinate.

A severe drought was experienced at the commencement of the season, consequently sowing operations were considerably delayed.

VEGETABLE SECTION.

North-East Planting Season, 1925.

Chillies.—Twenty-three strains were selected for sowing next season.

Snake Gourds.—Several promising strains were killed outright by *Aulacophora* beetle grubs attacking the roots and the *Chaetodacus* fruit-fly attacking the fruits.

South-West Planting Season, 1925.

Chillies.—Twenty-three strains in three series. Three strains were killed out by bacterial wilt. The biology of the flowers was studied.

Cowpeas.—Twenty-eight pure-line strains were laid down in standard size plots, 38 feet × 4 feet for selection on a basis of yield. Botanical records with type drawings of the different strains were made. Sixteen new strains were laid down for establishing pure cultures.

Bandakka.—Sixty-three samples were laid down. The different strains were selfed by adopting the "ring" method of selfing.

Snake Gourds.—Twenty-two samples divided into 5 arbitrary groups were laid down. *Aulacophora* root-boring grubs appeared in such overwhelming numbers this season also that it was decided to transfer this crop to Anuradhapura.

North-East Planting Season, 1925-26.

Chillies.—Twenty-one types were laid down, and 8 varieties received from the Manager, Seed Store, were also included.

Cowpeas.—Forty-nine pure-line strains were laid down.

Bandakka.—Thirty-three strains were laid down for comparative trial. Twenty-four other strains were sown on small plots.

Kurakkhan.—Laboratory study of samples received gave 43 different types grouped into three series. These strains were sown in duplicate at Anuradhapura and Peradeniya.

G. V. WICKRAMASEKERA,
Acting Government Economic Botanist.

VI.—REPORT OF THE CENTRAL EXPERIMENT STATION, PERADENIYA.

TEA.

THE results of the tea manurial experiments started in 1917 were summarized up to the end of 1924, and the conclusions placed before the Estates Products Committee of the Board of Agriculture.

During the course of the year the tea areas were reorganized as follows:—The most even portions of plots 144, 150, and 155 were subdivided into, in all, 78 plots of 40 bushels each, each plot fenced round with iron stakes and wire. The yields of green leaf from each of these plots will be separately recorded from the time the bushes come into bearing after the 1925 pruning till the 1927 pruning, after which a new series of manurial experiments will be started in these plots. In plots 141, 142, 143, 145, 146, 147, 148, 149, 163, and 164 *Indigofera endecaphylla* was planted during the north-east rains. Soil samples were taken from all plots before planting. The previous manurial treatment will be continued unchanged, and observations will be made on the effect of this creeping cover crop on the yields and health of the tea.

In the hillside tea two areas with a fairly even slope were set aside for a series of soil erosion experiments. The work in area A, which consists of 6 plots of approximately 1/34th acre each, was completed by the end of the year. Brick and cement down drains and silt-pits were constructed and arrangements made to measure and record all soil washed from the plots, whether in suspension in water, or as solid matter.

The relative wash from these plots will be recorded for a year, after which the efficacy of (1) a cover of *Indigofera endecaphylla*, (2) contour hedges of *Clitoria cajanifolia* as wash preventive measures will be tested.

All the tea was pruned in September, October, and November, with the exception of the half acre plot which was allowed to run on to the end of the year to enable a small experiment with Ammo-phos to be brought to a conclusion. This experiment failed to show any marked increase of yield from the use of this manure.

The popularity of *Gliricidia maculata* as a green manure and shade tree for tea has in no way decreased; 40,350 cuttings were sold to estates during the year.

A comparison of the weight of loppings from *Gliricidia* and dadaps of the same age in the 1/4 acre tea plot has shown that during the year the *Gliricidias* have given 10.3 tons of green material per acre, against 4.9 tons given by the dadaps. The appearance of the tea under *Gliricidia* is distinctly superior to that of the tea under dadaps.

Small trials were made in treating decayed tea bushes either by draining the cavities and applying Skenes enamel wax and tar, or by filling the cavities. For the latter operation "Mexphalte" mixed with sawdust and "Plascom" mixed with liquid fuel were tried. Cleaning and filling is expensive, and further experience is needed to determine the economic value of the operation.

Vacancies in the Dark leaf Manipuri plots were supplied partly in July and partly in August. In spite of unusual droughts in July and September the percentage of survivals was higher than usual.

RUBBER.

The following experiments were continued:—

1. *Old Manurial Experiment.*—The results of this experiment were summarized up to the end of 1924 and the conclusions placed before the Estates Products Committee of the Board of Agriculture. The indications are that in this case manuring has not affected the yield of rubber.

2. *Avenue Rubber Manurial Experiment.*—In this experiment three different manurial mixtures are given, in the one case with and in the other without the addition of lime. Another plot receives lime only, and this plot has given the highest yield over the whole period of the experiment. Also the plots receiving lime and manure have on the average given slightly higher yields than those receiving manures only.

3. Two experiments for the comparison of alternate day tapping with tapping every 3 days.

4. Comparison of a V cut with a single cut.

5. Comparison of tapping on alternate days throughout the year and daily on alternate months.

6. The recording of individual tree yields of dry rubber was continued in plots 11-15. Mr. R. A. Taylor of the Rubber Research Scheme has undertaken a fresh analysis of the resulting figures up to March 31, 1925.

A census of diseased trees was taken by the Assistant Mycologist in December.

Trials of different cover crops in the New Avenue Rubber were continued. *Indigofera endecaphylla* and *Centrosema pubescens* have given the best results.

Under old rubber attempts to establish cover crops have not been successful.

There was a considerable demand for rubber seed and several large orders were supplied.

Seed was collected from some of the best yielding trees in the blocks in which individual yields are being recorded and planted in nurseries to provide budding material for officers of the Rubber Research Scheme. Seed from high yielding trees on two estates was also received.

CACAO.

Yields of the plots employed in the last manurial experiment are still separately recorded to serve as a basis for any future experiment.

Individual yields of 131 trees in the B cacao area were again recorded.

A comparative trial was made between three methods of treating stem canker. The methods were:—

(1) Light scraping and painting with 10 per cent. brunolium at a cost of Re. 1.02 per acre.

(2) Light scraping and rubbing with copper sulphate crystals at a cost of 89 cents per acre.

(3) Light scraping and painting with a saturated solution of copper sulphate at a cost of 87 cents per acre.

All three methods appeared to check the lateral spread of the disease, but the most vigorous healing was observed in (1).

An exceptionally large crop was harvested in November and December.

COFFEE.

A fair interest was still maintained in the Robusta types of coffee and a considerable quantity of seed was supplied.

The small experiment for the comparison of cattle manure and forking, plain forking, and mulching without forking was continued. Cattle manure was applied to the "6 acre coffee field" and vacancies in this area were supplied.

Trials to check existing information, or obtain fresh information on the following points were started in the latter part of the year with all the coffees grown:—

- (1) The number of berries per pound of berries.
- (2) Outturn of parchment coffee from fresh berries.
- (3) Outturn of sundried coffee from fresh berries.
- (4) Length of time of unpulped berries will retain their germinating power.
- (5) Length of time parchment coffee will retain its germinating power.

COCONUTS.

The 19 varieties of coconuts planted in the fodder grass plots made better growth.

None of the Dwarf coconuts from the Federated Malay States planted out in 1921 have yet come into bearing.

A census of palms was taken in December.

The yield per tree was 26.8 nuts, against 26.7 nuts in 1924.

FIBRES.

Further trials were made with Roselle, *Hibiscus sabdariffa* var. *Altissima*, and samples of the fibre were shipped to London for valuation and report. The results show that good soil and cultivation is necessary for the successful growth of this crop; that the laborious process of hand extraction is the most expensive item in its production; that at the present exceptional prices the crop would appear profitable, but that at normal prices and with medium yields a profit would be doubtful unless means were found to reduce the cost of extraction.

A hundred suckers of Columbian Pita were taken from a nursery in the fruit plots and planted out under Plumeria shade in plot 16. This plant is a slow grower at Peradeniya and does not show great promise.

FODDER GRASSES.

The results of the trials in progress for 1924-25 were laid before the Estate Products Committee of the Board of Agriculture in September.

One acre each of buffalo grass, *Setaria sulcata* and *Paspalum commersonii* were planted, and these two grasses will be included in the yield trials from August, 1926. An acre of Efwatakala grass, *Melinis minutiflora*, was also planted and the area will be extended to 1 acre in 1926. The ordinary type of Guinea grass and the prostrate type of *Paspalum dilatatum*, still appear to be the best two grasses for Peradeniya conditions. Favourable reports on the growth and palatability of Napier grass were received from several estates at higher elevations.

The measurements of all the plots were checked and the boundaries defined with stone landmarks.

ADLAY, COIX LACHRYMA JOBI.

Efforts were made to popularize this useful grain crop and considerable quantities of seed were distributed through the Divisional Agricultural Officers and the Central Seed Store to School Gardens and the general public.

The yields obtained during 1925 were poor, 2 varieties proved a total failure while the remaining yields ranged from 3 to 36 bushels per acre. Periods of drought during the growing period resulted in a large number of empty grains.

TUBERS.

Five years trials of 22 varieties of Dioscorea yams were brought to a conclusion. Varieties have been discarded during the course of the trials. Eight varieties selected for their taste or yielding capacity were finally retained and stocks of these will be maintained. Trials with a number of varieties of sweet potato were continued and will probably be concluded in 1926.

GREEN MANURES AND COVER CROPS.

A great interest was taken in this subject during the year, and the greater part of the correspondence with the agricultural public was on this subject.

The value of seeds or cuttings sold or supplied to other branches of the Department amounted to Rs. 2,433.47, and it is confidently anticipated that this interest will be maintained in 1926.

Creeping cover crops are the subject of special interest, and of these *Indigofera endecaphylla* seems the most promising for tea or young rubber. Supplies of cuttings of this plant were largely withheld till 10 acres of the Experiment Station tea had been planted up, but 32,875 cuttings were sold during the latter part of the year and the plant has already attained considerable popularity. There has also been a considerable demand for seed of *Clitoria cajanifolia* which has proved a very useful plant for contour hedges on tea estates. *Crotalaria anagyroides* and *Crotalaria usaramoensis* also enjoy considerable popularity and large quantities of seed of the latter were sold during the year.

THE ECONOMIC COLLECTION.

The following additions to the collection have been made:—

Drugs.—*Mimosops elengi* and *Eupatorium ayapana*.

Dyes.—*Garcinia Xanthochymos*.

Tans.—*Diospyros embryopteris* and *Uncaria gambier*.

Fibres.—*Agava rigida* Var. *elongata*.

The weeding and upkeep of this area is expensive.

BUILDINGS.

Three sets of cooly lines were completed by the Public Works Department, and another set was nearing completion at the end of the year. One more new set of lines is needed to complete the satisfactory housing of the present labour force. Two incinerators were also built.

VISITS TO ESTATES.

Four visits were paid to estates to inspect green manures and cover crops and to obtain information as to the suitability of plants to different districts and elevations.

GENERAL.

The forking of couch grass and illuk was continued whenever labour was available and the state of the ground permitted. A great deal of work still remains to be done with regard to these two weeds.

The total rainfall for the year was 106.52 inches, about $17\frac{1}{2}$ inches above the average. The distribution, however, was irregular and unusual dry periods occurred in July and September. The north-east monsoon was exceptionally heavy.

The revenue of the station for the financial year ending September 30, 1925, was Rs. 33,546.08, the highest revenue ever yet obtained. The expenditure for the same period, exclusive of monthly salaries, was Rs. 32,446.08.

T. H. HOLLAND,
Manager, Experiment Station, Peradeniya.

VII.—REPORTS OF DIVISIONAL AGRICULTURAL OFFICERS AND OF AGRICULTURAL INSTRUCTORS.

CENTRAL.

District Agricultural Committees.—The above Committees, which meet at Kandy, Matale, Nuwara Eliya, and Kegalla were somewhat dormant during the year. The Matale and Nuwara Eliya Committees met twice while those of Kegalla and Kandy met but once during the year. These Committees should be placed on sound lines; they require a carefully devised constitution and satisfactory rules sanctioned and published by Government. It is suggested that an ordinance is required to control the District Agricultural Committees to make them regularly active bodies. Such ordinances exist for Provincial Road Committees, District Road Committees, and for Irrigation Committees, &c.

School and Home Gardens.—In all there are 176 registered school gardens in this Division, and over twenty schools are awaiting registration, mostly from the Kegalla District.

The school gardens in the Kandy and Kegalla Districts have made good progress. The work in the Matale District has been fair, while the Nuwara Eliya District, with the exception of Kotmale division, has not been satisfactory.

Mention may be made of the awakened interest in the work of grant-in-aid schools, with special reference to the schools of the C. M. S. in the Kandy District, the Friends' Mission in the Matale District, and the Roman Catholic Mission in the Kegalla District.

The number of home gardens is 4,000. The work of this section is making slow but steady progress. Seeds were distributed to the pupils, and a definite interest in the better cultivation of foodstuffs is noticeable. The villagers have taken much interest in the instructions given to the pupils, and are deriving indirect benefit from them. Different kinds of foodstuffs are being grown throughout the home gardens, with the result that petty thefts in village gardens appear to be on the decrease.

A Vernacular Agricultural Instructor continued to visit and report on home gardens.

School gardens have taken an active part in village and town agricultural shows in the Division, good specimens of garden produce being exhibited.

A sum of Rs. 700 has been distributed among teachers of school gardens and Rs. 200 as prizes to pupils for work in home gardens.

DISTRICT WORK.

Kandy District.

Paddy.—During the year close attention was paid to the growing of pure-line paddy. During the maha season (1924-25) trials with B 12 type were carried out and 8 acres were grown with it at Kondadeniya and $\frac{1}{2}$ acre at Dunuwille and $\frac{1}{2}$ acre at Ranavane, all in Harispattu. The following are the results:—(1) *Kondadeniya*: $\frac{1}{4}$ acre; transplanted on October 5, 1924; harvested March 2, 1925; yield in bushels 18; yield per acre 72 bushels. (2) *Kondadeniya*:

3/10 acre; transplanted October 7, 1924; harvested March 3, 1925; yield 23 bushels; yield per acre 76/23 bushels. (3) *Kondadeniya*: $\frac{1}{2}$ acre; transplanted October 12, 1924; harvested March 6, 1925; yield 35 bushels; yield per acre 70 bushels. (4) *Kondadeniya*: 2 acres; broadcasted August 28, 1924; harvested March 10, 1925; yield 124 $\frac{1}{2}$ bushels; yield per acre 62 $\frac{1}{4}$ bushels. (5) *Ranavane*: $\frac{1}{2}$ acre; broadcasted September 13, 1924; harvested March 18, 1925; yield 28 $\frac{1}{2}$ bushels; yield per acre 57 bushels. (6) *Dunuwille*: $\frac{1}{2}$ acre; broadcasted September 18, 1924; harvested March 21, 1925; yield 26/25 bushels; yield per acre 53/50 bushels. (7) *Kondadeniya*: 1 acre; broadcasted September 6, 1924; harvested March 23, 1924; yield 56 bushels.

During the yala season of 1925, three types of pure-line paddies (early varieties) were tried, two of them HO 33 and HB 8 in Kondadeniya and HK 13 in Yatnavale. HB 8 was not up to expectations. HK 13 proved moderately satisfactory; a yield of 42 bushels per acre was obtained. HO 33 was more successful and gave a yield of 51/78 bushels per acre which can be taken as the highest yield obtained from early or short-aged paddy in the locality. The following are the details of the above varieties:—*HK 13*: $\frac{1}{2}$ acre; broadcasted May 11, 1925; harvested August 30, 1925; yield 21 $\frac{1}{2}$ bushels or 42 bushels per acre. *HB 8*: $\frac{1}{2}$ acre; broadcasted May 11, 1925; harvested August 30, 1925; yield 5 3/8 bushels or 10 $\frac{3}{4}$ bushels per acre. *HO 33*: 2/5 acre; broadcasted May 12, 1925; harvested on September 13, and threshed on September 14, 1925; yield 20 $\frac{3}{4}$ bushels or 51 $\frac{3}{4}$ bushels per acre.

During the maha season of 1925 the cultivation of B 12 type of pure-line paddy has been further extended and some other types, viz., B 20, B 27, B 11, and I 17 are being tried. B 12 and I 17 have been sown broadcasted, and B 20 and B 27 were sown in nurseries with the view of transplanting. B 12 has been successful and has been introduced into a new centre, viz., Mahaiyawa where transplanting will be done.

In the Udunuwara Division the cultivators appear to be somewhat backward in not taking full advantage of the period of rain for paddy cultivation. The owners of the fields have taken to transplanting, and are gradually adopting this method in favour of broadcasting. Almost all the fields are manured with green and farmyard manure. The area transplanted is approximately 300 acres.

Irrigation.—There is a number of channels which require repairs and improvements; these have been reported upon. At present the repairs to Inigala-ela are in hand, and the Siyambalagoda and Asweddumakumbura are schemes under the consideration of the irrigation and revenue authorities.

Paddy Manurial Trials.—Co-operative manurial trials were carried out in eight centres at Katugastota. The yields were below those obtained in previous years. This is considered to be due to the fact they were previously dry fields (Godakumburas). All the plots were transplanted with six-weeks-old seedlings of Molegode's hathiel, 4 to 5 inches apart, from October 6 to 12, 1924, and were harvested from February 28 to March 5, 1925. At the time of flowering there was rain, and consequently a large percentage of empty grain.

Several green manuring trials were conducted throughout Harispattu and Yatinuwara divisions. The practice of using green leaf for manure in paddy lands is common in these divisions, but the application of green leaves is not sufficient and consequently the full benefit of green manuring is not obtained. At Siyambalagoda a field about an acre in extent was manured with 40 loads or approximately 1,200 lb. of leaves of dadap and wild sunflower. Previous to this the field used to be manured, but with only 300 to 400 lb. of green leaves. In 1925 the yield from this field was 68 bushels, as against an average of 50 to 55 bushels in the previous years. Two manurial trials in 5 plots were conducted in Uda Palata. These trials are to be conducted for three years running on the same plots, with a change of manure for each plot every year.

Production of Foodstuffs.—During the latter part of the year a great deal of attention was directed towards this important subject. A series of public lectures were arranged, and three lectures were delivered at the School of Tropical Agriculture, Peradeniya, during the month of December. The subjects were as follows:—"The Cultivation of Onions" by Mr. G. E. J. Hulugalle, Divisional Agricultural Officer, North-Western Division; "The Cultivation of Garlic" by Mr. W. Molegode, Senior Agricultural Instructor, Katugastota; and "The Cultivation of Chillies" by Mr. W. P. A. Cooke, Divisional Agricultural Officer, Northern Division; and "Selection of Seed" by Mr. N. Senathiraja. These lectures will be continued in 1926. The lectures were well attended. Many village meetings were held at different centres. Lectures on subjects embracing the work of the Agricultural Department were delivered in Sinhalese by the Divisional Agricultural Officer, Central Division; the Inspector of School Gardens, Central Division; Mr. W. Molegode, Senior Agricultural Instructor; Mr. Boange, Agricultural Instructor; and by the officers of the Plant Pest Inspectorate, Central. This type of meeting is a new departure, and is without doubt promoting a keen interest among cultivators and developing village agriculture generally. The villager is now understanding the work and functions of the Department. These meetings have stimulated zeal and interest in the village agriculture, and inquiries are being received from villagers soliciting advice and help. In view of the success of these meetings efforts are being made to hold them throughout the Central Division.

A very considerable amount of vegetables was raised in the Kandy District during the year. A considerable portion of the supply of vegetables to the Kandy market was drawn from Harispattu and Yatinuwara divisions. There was a scarcity of limes during the latter part of the year.

A considerable amount of ginger and turmeric and tamarind is grown in the district. These are widely used by the villagers of Yatinuwara. Onions were established over a wide range and villagers are being encouraged to grow more. Chillies are extensively cultivated in Tumpane. In one case 12 acres of chillies were cultivated in Allagolla as a commercial proposition and the results were satisfactory. On the whole the question of increased production of foodstuffs is well in hand throughout the Central Division.

General.—The Ratamahatmayas of the different divisions have co-operated with the Agricultural Instructors, and are helping in promoting an increased production of foodstuffs.

Agricultural Competitions and Shows.—Eight agricultural competitions were held; 2 for cacao gardens, 1 for tea gardens, 3 for paddy cultivation, and 2 for vegetable gardens. There was a large number of entrants, and keen competition was noticed. A sum of Rs. 540 was awarded for prizes for the above competitions. For the first time a competition was held for the Police gardens in the Kandy District. Very keen interest was shown by the competing Police stations. Panwila and Galaha Stations took the 1st and 2nd places, respectively. Prizes were Rs. 20 (1st prize), and Rs. 15 (2nd prize). At the request of the Superintendent of Police, Kandy, the competition is being repeated in 1926. A market show was held at Alawatugoda as in 1924. It took place in June. The show was successfully carried out under the direction of Mr. W. Molegode, Senior Agricultural Instructor. Prizes were given for the different exhibits. A sum of Rs. 75 was contributed by the Department.

Matale District.

Paddy.—Instructions on the improved methods of paddy cultivation were delivered to 75 villages. It is pleasing to note that the practice of transplanting paddy and that of using green manure on paddy lands has been adopted by the villagers, and it is expected that shortly every field where water is available will be transplanted. In the Matale South Division paddy lands, which are cultivated for one season, were planted with various vegetables during the period when the fields were lying fallow. This new step was successful, and it is expected it will be continued every year.

A triple paddy manurial trial was carried out on twenty $\frac{1}{2}$ -acre plots and good results were obtained. An experiment was conducted to determine whether transplanting could be carried out during the yala season with short-aged paddies. The results were satisfactory, and served as a concrete demonstration to the villagers.

Demonstrations were conducted on thirteen paddy plots on transplanting for the purpose of showing the villagers the benefits to be derived from transplanting. Demonstrations were also held on green manuring and thin sowing.

Agricultural Competitions and Shows.—Ten competitions were held; 5 for paddy cultivation, 4 for vegetable gardens, and 1 for cacao gardens. A sum of Rs. 645 was awarded for prizes. These competitions evoked interest and keenness among the competitors. A successful village show was held at Paldeniya in Matale North during the month of July. There were six classes with 101 sections, and all the sections were well represented. The show was attended by 2,000 people, Mr. G. de Silva, Agricultural Instructor, Matale North, worked hard towards the success of this show, and was helped by the Ratamahatmayas and other headmen and by the local planters. A sum of Rs. 100 was donated to this show from departmental funds.

Nalanda Experiment Station.—The following is the progress made in the different sections:—

Paddy Plots.—Eleven pure-line strains and a local variety as control were tried during the maha season, 1924-25. The fields were all transplanted with seedlings raised in the station. The trial on the whole was not very successful. There were, however, a few good types. The failure of the crop was due to the seeds not being acclimatized. The same varieties with four additional types were sown in nurseries in October, and were transplanted in December for trial during the maha season, 1925-26.

Cotton.—Three acres were planted in October and in November. Two and a half acres are planted with Cambodia and the rest with Durango.

Pineapples.—One acre is under cultivation, and the plants are growing satisfactorily. *Gliricidia* cuttings are planted as shade; they have struck well.

Sisal.—Bulbils and suckers were planted in August and December, 1925, respectively, and are coming up well.

Adlay and Chillies.—Half acre of each was planted in November. Growth is satisfactory so far.

Fruit Trees in the Triangular Area.—Lime, oranges, four varieties of mangoes, and grape fruits were planted in October. The plants are doing well and vacancies have been supplied.

Java Kapok.—Three-fourth of an acre is under cultivation.

Algeria Cotton, Sweet potato, and Madagascar Groundnut are also planted. The cotton and groundnut are purely experimental, and few plants of each have struck.

Considerable attention and extra supervision has been given to the station in order to improve its general condition. Weeds are a continued source of trouble and expense.

Cotton Cultivation in the District.—The cultivation of cotton is being taken up with keenness in the Dambulla district. Nearly 15 acres were planted during the season. If this crop meets the expectations of the cultivators, a large number of cultivators will take up cultivation of cotton during 1926.

General.—Co-operation has been maintained with the Ratamahatmayas. They have assisted the instructors of the district in their duties.

Nuwara Eliya District.

In the *Walapane division* of the Nuwara Eliya District successful work was done by Mr. G. Madugalle, Agricultural Instructor, Walapane. The work of the co-operative societies and that of agriculture were carried out hand in hand. It was found that the only and the best way to discuss all matters of agricultural interest was at the meetings of co-operative societies.

Paddy Cultivation.—Less attention is paid to the cultivation of paddy in Walapane than in other divisions. The reasons are many. In every village the poor possess a very small percentage of the paddy fields. The fields are owned by a few well-to-do people of the village who give no encouragement to the cultivators to produce better results, or to take up improved methods of cultivation. In many cases the fields are mortgaged and the crops given for payment

of interest, in consequence the villager shows a preference for chena cultivation. The co-operative societies are assisting those who have mortgaged their fields to redeem them, and to work the fields in a better method; and for those people who do not possess fields, steps are being taken to purchase fields. Every endeavour was made to encourage the villager to adopt methods for growing the maximum crop. Instruction on manuring, transplanting, seed selection, weeding, irrigating, and thinning out were given. Green manuring and thinning out have increased in comparison with previous years.

In the *Kotmale division* paddy is cultivated during the maha season only. Arrangements were made to plant the fields with vegetables during yala, but this met with little success owing to (1) scarcity of water and (2) the stubble is required for the feeding of the buffaloes of the district. The cultivation of paddy in Kotmale division is on a better standard than the other divisions. Most of the best fields in the Nuwara Eliya District are found here.

In the *Uda Hewaheta division* much progress has been made in paddy cultivation. Fields which were not cultivated during the yala season in previous years were brought under cultivation in 1925. Green manuring was used extensively and it is pleasing to note that cultivators are gradually realizing the good effect of this form of manuring. Demonstrations in manuring, transplanting, and ploughing were carried out in every koralé.

Chena Cultivation.—This has been the most popular cultivation amongst the villagers of the Walapane division. Besides Crown chenas, a fair amount of private chenas were brought under cultivation. Chena cultivations are of material help to the villagers, and helps to swell the food supply of the people; but the present system of the issue of Crown chenas could be better regulated in the interests of both chena and paddy cultivations. The indiscriminate issue of Crown chenas results in neglect of paddy cultivation. The issue of Crown chenas is meant generally for the poor, but some well-to-do villagers are also obtaining them. Further, the felling of Crown chenas in Walapane has resulted in soil erosion.

Cultivation of Cotton.—As in the previous years this cultivation was carried out in many parts of the Walapane division. The following figures show the steady increase of the cultivation:—

1923-24.—560 lb. issued to 97 cultivators; crop realized: 2 tons. 1 cwt. 1 qr. 21 lb.; value Rs. 1,081.38.

1924-25.—448 lb. issued to 57 cultivators; crop realized: 1 ton. 7 cwt. 2 qr. 25 lb.; value Rs. 666.10.

1925-26.—676 lb. issued to 53 cultivators.

The very satisfactory results in 1923-24 season were due to the variety of cotton planted. Cambodia was the variety introduced. Two minor experimental stations are being worked with a view to raising the maximum crop per acre and the study of the characteristics of the variety as far as this Division is concerned. One station (Udamadura) is managed by the District Agricultural Committee, Nuwara Eliya, with the supervision of the Agricultural Instructor, Walapane. The work here is rather slow, owing to the negligence of the care-taker. The other station is at Kumbalagamuwa, and is managed by this Department. Fencing has been completed. Seeds have germinated well, and the growth is satisfactory. All cotton crops in the Walapane division have been purchased in accordance with the Departmental purchase scheme. A deduction on account of transport and rail freight was made, and the balance paid to growers. The prospects of cotton cultivation in this division are good. As chillies are here interplanted with cotton it is interesting to note that the cultivation of chillies is progressing satisfactorily.

Cultivation of Plantains.—The growing of plantains is being encouraged in the Nuwara Eliya District. The Ratemahatmayas of the various divisions are taking deep interest in the matter. Suckers of different varieties have been supplied to the Kotmale division, where the Ratemahatmaya is evincing great keenness. Suckers will be supplied to the Walapane and Uda Hewaheta divisions shortly.

Other Food Crops.—Instructions were given on the increased productions of foodstuffs. Manioc, yams, and kurakkan are being cultivated in large quantities.

Agricultural Competitions and Shows.—Two competitions, 1 for paddy (Uda Hewaheta) and 1 for tea gardens in Kotmale, and 1 show at Harasbedda in Walapane were held during the year. The tea garden competition of Kotmale was conducted conjointly with the Food Production Committee. The planters showed a keen interest and special mention must be made of the services of Mr. K. H. Plumridge of Meddetenne estate. Rs. 75 was given as prizes for this competition. A similar sum was given to the paddy cultivation competition of Uda Hewaheta. A successful show was held at Harasbedda in Walapane on April 25 and 26. There were 190 classes in the catalogue, and all the classes were well represented. The number of exhibits amounted to 2,843, and the competition was very keen. The exhibits were of a high standard. In several classes the judges complimented the exhibitors. The show was well supported by the planting community. The number of prize winners was 133, with 70 honourably mentioned. The Department donated Rs. 100 to this show.

Sunday Markets.—There are three centres in the district where regular Sunday fairs are held. They are Harasbedde in Walapane, Niyangandora in Kotmale, and Rahatungoda. Of these the one at Harasbedda is the most popular, due to the number of estates in the neighbourhood and to its proximity to Nuwara Eliya. The other two are doing fairly well.

General.—Good progress has been made in the district. The Ratemahatmayas have willingly helped the Instructors in their duties.

Kegalla District.

Seed Paddy Trials.—The following varieties of paddy were tried on a paddy field in Beligammana:—E 24, F 25, B 20, and B 27. Of these, E 24 showed the best results. This variety has been resown in another plot for trial in this maha season.

Manurial Trials.—Trials were conducted in eight centres. The artificial manures used were bone meal, animal meal, and ephosphosphate.

Adlay Trials.—Trials have been established in 25 places, mostly school gardens. When the present crop is harvested it is proposed to distribute the seed to the school children to be grown in their home gardens, and also a fair portion to be distributed among the villagers.

Village and Agricultural Meetings.—Thirty-three meetings were held during the year. At these meetings cultivators were questioned regarding the difficulties they meet with in their cultivations and they are given due instructions and advice. They were also addressed on green manuring, transplanting, and seed selection of paddy. They were also informed of the different competitions to be held in the district.

Demonstrations.—A ploughing demonstration was held at Botale where the Meston, Oliver, Goiya, and Molegode, and village ploughs were demonstrated. The Molegode plough was found to be the most suitable for use. Demonstrations on transplanting, green manuring, and on vegetable gardens were also given.

Agricultural Competitions and Shows.—There were 6 competitions during the year, the prizes for which were provided by this Department. They were 3 for paddy cultivation and 3 for vegetable garden cultivation. The entries were very satisfactory. Rs. 300 were paid for prizes. Competitions for cotton cultivations were also held in the Kegalla District. The prizes were offered by the Sinhalese Young Men's Association of Kegalla (gold medal) and by Mr. J. R. Walters, Assistant Government Agent, Kegalla (Rs. 30). The district is too wet and therefore unsuitable for cotton cultivation. The School Hedge Competition was won by the Government Vernacular Boys' School, Ambepussa. The prize was a silver medal, kindly presented by Mr. C. P. Crispeyn, Agricultural Instructor, Kegalla. Sunday market shows were held in four places, viz., Morantota, Atale, Aranayaka, and Kegalla. These were visited with a view to seeing that those bringing the produce are not troubled by intimidators and also with the object of studying conditions. These shows were organized for the first time in this district and have proved a success. A sum of Rs. 50 was distributed as prizes.

Rambukkana Plantain Plots.—The experiments in these plots have been reopened on lines of soil sterilization and varieties tests. In the case of soil sterilization, the different plots were separated by trenches on all four sides and the soil was dressed with Jeyes' fluid, cheshnut compound, and lime. In the case of the varieties tests, 24 different varieties of plantains are being raised in plots from which bunchy-topped stools were removed. The soil in these plots is untreated.

Conclusion.—I desire to express my thanks to all the officers in the Central Division for their co-operation during the year. I have no hesitation in saying that, were it not for the willingness of all officers to work at all times and to work hard, my duties would have been more onerous and the progress of the Division not considerable. I wish to place on record my appreciation of the services of Messrs. K. Ponniah and T. B. Bullumulla of my office. They have been of great help in the administration of the Central Division.

NIGEL K. JARDINE,
Acting Divisional Agricultural Officer, Central Division.

REPORT ON THE FARM SCHOOL, PERADENIYA, FOR THE YEAR 1925.

The following table summarizes the position in regard to the number of students who received instruction at the school in 1925:—

			January.		May.		December.
Second-year class	...	...	14	...	14	...	18
First-year class	...	...	17	...	12	...	10
Total receiving instruction in English	...	...	31	...	26	...	28
Vernacular teachers' class	...	...	12	...	12	...	12
Total in school	...	...	43	...	38	...	35

The 14 second-year students present in January left in March after sitting for their final examination.

Of the 22 applicants 17 were selected for admission to the new class formed in May, but only 12 of these reported arrival.

One second-year student and 2 first-year students withdrew before the end of the year, leaving 13 and 10 respectively in each class. The teachers who entered in May, 1924, left after completion of their training in March, and a new class of 12 men was formed in May. The 2 students who were sent by the Superintendent of the Northern Shan States, Burma, in May, 1924, received instruction at the school for one year till March, 1925. Before they returned to Burma in September, they spent three months at the Experiment Station and three months at the New Peradeniya Estate Factory, making a study of the cultivation and manufacture of tea, for which purpose they were especially sent here. They showed that they had made considerable progress in their studies to which they devoted themselves with great keenness. The final examination has been made less theoretical and more practical. The number of papers hitherto taken in each subject has been reduced.

In connection with the annual tour which took place in February, Jaffna and Anuradhapura were visited. At Jaffna the students resided in the Tinnevely Farm School Buildings, which were placed at our disposal by the Divisional Agricultural Officer, Northern Division. The Farm Manager, Mr. Senathirajah, receives our warmest thanks for much trouble to which he put himself on our account. Before leaving for Anuradhapura a very instructive visit was paid to the Iranamaduru lands over which the students were very kindly taken by the Irrigation Engineer. At Anuradhapura we were conducted over the Experiment Station and neighbouring gardens by Mr. Canagaretnam, the Manager, who also entertained the students. A visit was paid to the Ratmale Colony.

Mr. E. S. de S. Jayasundera resigned his post at the end of March, and proceeded to Poona to further his studies in Agriculture. Mr. S. Sangarapillai, who passed creditably through the School in March, was appointed to fill the vacancy.

Mr. C. Wickramaratne on leaving at the end of March went on sick leave, and was ultimately retired from the service. His place, as Instructor to the Teachers' Class, was taken by Mr. C. A. Perera, a trained bilingual teacher who went through this school in 1922.

Mr. V. Canagaretnam spent four months here, in the school and in the office, prior to assuming duties as Farm School Officer, Jaffna, in September.

During the year the Farm School Officer went on one week's casual leave and two weeks' sick leave. The Assistant Farm School Officer went on two weeks' sick leave, a part of which time was spent in hospital.

Special features in connection with students' work during the year were: (1) the sowing of strains of paddy selected by the Economic Botanist; (2) the study of the effect of fertilizers on crops; (3) rubber tapping and recording the yields of individual trees; (4) testing of milk for fat content; (5) the systematic reading of agricultural literature as a part of school work under supervision.

In connection with general farm work: (1) the area under Guinea grass was fenced in along the railway boundary; (2) the erection of paddocks for cows and calves; (3) the planting of an additional half acre of Guinea grass on the river bank.

An order for a small boiler and sterilizing apparatus was placed with the Government Factory, and the parts were received at the end of the year. Orders have been placed with the Crown Agents for dairy requirements, such as Separator, Butter-churn and worker, patent bottles, and other requisites so as to make dairy work complete.

Mr. C. M. Dias of Panadure, who intends opening a dairy, sent one of his men for a fortnight's training here.

At the commencement of the year there were 7 cows, 1 stud bull, and 4 calves. Two bull-calves and 2 heifer-calves were sent to the Jaffna Farm School in June. During the year all the cows calved, and of the 7 calves 3 were heifer and four bull-calves.

The health of all stock was satisfactory throughout the year.

The cows had all run dry at the end of December last, and remained so till February. Calving took place in February (3), March (2), April (1), and June (1). From records kept, the average period of lactation for this herd of Scind cows is $8\frac{1}{2}$ months; the period off milk lasting for $3\frac{1}{2}$ months on the average.

The sale of milk was continuous throughout the year, and there is a local demand for it. The rate charged is 20 cents a pint.

The average yield per cow during the last lactation worked out at $9\frac{1}{4}$ pints equivalent to $7\frac{1}{2}$ bottles. The highest daily yield of any animal was 20 pints. The following table summarizes the merits of the individual cows:—

			Total Yield during Lactation. Gallons.		Average per Mensem. Gallons.		Average per Day. Pints.
1.	Cow No. 26	...	430	...	48	...	12.7
2.	Cow No. 82	...	304	...	34	...	10.0
3.	Cow No. 24	...	296	...	37	...	9.8
4.	Cow No. 31	...	284	...	28.4	...	7.5
5.	Cow No. 29	...	271	...	32	...	8.2
6.	Cow No. 33	...	245	...	41	...	10.9
7.	Cow No. 67	...	224	...	25	...	6.7

Cows in milk received, on the average, 8 lb. of concentrates consisting of pollards, coconut poonac, dhal husks, and ulundu in such proportion as would give a nutritive ratio of 1: 4.5. The quantity fed is based on a standard of 1 lb. food to 3 lb. milk or 2 bottles of milk. In addition Guinea grass is given to each cow at the rate of not less than 50 lb. a day, and more when available.

In calculating the cost of upkeep of 1 cow a day and the cost of production of 1 pint of milk, (1) the value of the fodder has not been included, except the wages of the grass-cutter; (2) $1/5$ the cost of non-consumable stores such as weighing-machine, buckets, &c., has been taken, as the total value may be spread over a period of five years; (3) the cost of upkeep of 1 stud and the calves has been included, the value of milk fed to calves being an item of heavy expenditure.

The figures obtained are as follows: (1) cost of upkeep of a cow a day Re. 1.08 over the whole year, (2) cost of producing a pint of milk 23 cents.

J. C. DRIEBERG,
Farm School Officer, Peradeniya.

SOUTHERN.

DISTRICT AGRICULTURAL COMMITTEE.

Matara.—Four meetings were held.

FOOD PRODUCTION COMMITTEE.

Hambantota.—One meeting was held.

HAMBANTOTA COTTON PURCHASE SCHEME, SEASON 1924-25.

The progress made as a result of this the second-year's working of the scheme has been satisfactory. Increased interest and a desire on the part of the cultivators to take up cotton cultivation has been shown. More attention has been given to clean weeding and cultivation.

An estimate of the area cultivated is purposely omitted as it would be quite misleading, but the total quantity of seed cotton purchased was as follows:—

					Cwt.	qr.	lb.
First grade cotton	...	...	...	...	1,211	2	4
Second grade cotton	...	...	...	...	20	1	0
Third grade cotton	...	...	...	...	6	0	0
Total					1,237	3	4

for which a sum of Rs. 30,733.40 was paid. This represents an increase of 509½ cwt. of a value of Rs. 12,638.

The varieties grown were Watts Long Staple and Zululand Hybrid, and a price of Rs. 25 per cwt. delivered in Colombo was given for these superior cottons.

The collection of the seed cotton was made by the Divisional Agricultural Officer for cash direct to the cultivators at the following centres and rates during the months of March and May:—

					Rs.	c.
1. Middeniya for Paranagam palata	...	...	...	...	20	0
2. Talawa for Wewgam palata	...	...	...	...	20	0
3. Angunakolapelessa for Ithalawalakada	...	...	...	...	20	50
4. Hatagala for Phalawalakada	...	...	...	...	21	50
5. Ambalantota for Moderagam palata	...	...	...	...	22	0
6. Hambantota for Magam pattu	...	...	...	...	22	50

The plots were widely distributed over the district and the following statement shows the quantities brought in from each police officer's division:—

	lb.		lb.
Labuhengoda	663	Kiula	1,995½
Kudagoda	1,723	Mulana	3,231½
Murungagasyaya	5,146½	Minietliya	151
Middeniya	6,491	Alutwewa	443
Okandeyaya	2,477½	Welipatanwila	14,604½
Melleketigoda	1,338½	Ambalantota	8,667
Helella	2,412	Suriyawewa	26
Dikwewa	1,210	Kahandamodera	549
Welipitiya	1,977	Deniya	53
Sapugahayaya	2,097½	Kendeketiya	315
Dabarella	14,314½	Galpottayaya	1,292½
Kudagoda	4,491	Walasmulla	108
Talawa	4,832	Wetiya	21
Kariyamaditta	2,775½	Siyambalakatuwa	1,395½
Tawaluwila	5,612	Siyambalakote	407½
Beragama	319	Angunakolapelessa	180
Beminiyanwila	1,843	Galmulla	183
Ihalakumbukwewa	6,322	Gonnoruwa	1,847
Debokkawa	8,222	Kalametiya	25½
Uswewa	4,853½	Kurundana	1,360
Abeysekeragama	1,623	Padawkama	1,022
Hatagala	6,557½	Weliwe	2,805
Bata-ata	2,270½	Migahajandura	370
Pallegama	1,166	Meegaswewa	112
Lunama	4,185	Tanamalwila	500
Gannoruwa	165½	Weerawila	365
Udamalale	4,520	Miscellaneous	1,400
Etbatuwa	550		

SEASON, 1925-26.

Eight tons of Cambodia seed (a shorter stapled cotton) were distributed in October—the acreage under cultivation is roughly estimated at rather less than 1,200 acres. The seed which was imported from Madras has given a very good germination. The north-east monsoon rains have been very favourable and the prospects so far are distinctly encouraging. A noteworthy feature has been the systematic planting and the increased attention to cultivation and weeding.

EXPERIMENT STATIONS.

Major—The Cotton Experiment Station, Ambalantota (Hambantota District), 1924-25 Season.

The cotton was grown on the same land as was cultivated during the previous three years. In August the land was cleared of old stalks—these were burnt. During August and September the land was ploughed by Cletrac tractor with a disc plough. The ploughing and harrowing done was not very satisfactory owing to inexperience of ploughmen.

The cotton seed was sown on October 24 to 29. The seed germinated well. Most of the weeding was done with cattle by means of cultivators drawn by bulls whereby the cost of weeding was considerably reduced.

Manuring.—Trials were made with various concentrates applied at the first earthing up, but without any apparent effect upon the crops.

Rainfall.—Exceptionally heavy rain fell during the month of January, and to this fact more than anything else is attributed the very low yields obtained.

The rainfall for the first crop period was as follows:—

	Inches.	Days.		Inches.	Days.
September	4.95	8	January	6.14	6
October	2.70	7	February	.90	3
November	3.50	6	March	6.86	12
December	2.27	4			

Total 27.32 inches.

Against an average taken over the last 55 years as follows:—

	Inches.	Days.		Inches.	Days.
September	... 2.33	... 7	January	... 3.34	... 7
October	... 4.81	... 11	February	... 1.45	... 4
November	... 6.78	... 13	March	... 2.18	... 6
December	... 5.44	... 10			
Total 26.33 inches.					

The cost per acre in comparison with the three previous years was as follows:—

		1921-22.	1922-23.	1923-24.	1924-25.
Capital Expenditure—Per Acre.		Rs. c.	Rs. c.	Rs. c.	Rs. c.
1. Clearing and burning	...	31 46	—	0 60	3 75
2. Building cooly lines	...	2 97	—	—	—
3. Rent for office and store	...	—	4 34	7 32	8 37
4. Fencing	...	6 3	0 78	4 48	4 75
5. Implements	...	9 83	—	2 95	0 99
6. Bags	...	3 26	—	—	—
7. Cost of cattle	...	—	—	—	1 5
Recurring Expenditure—Per Acre					
1. Preparation of land for sowing	...	24 28	31 8	31 61	36 80
2. Cost of seed	...	1 0	—	—	—
3. Weeding	...	21 30	16 64	49 85	18 2
4. Manuring	...	—	5 65	5 55	11 38
5. Pests and diseases	...	1 16	2 37	—	0 60
6. Harvesting	...	16 30	13 5	3 89	2 23
7. Cleaning cotton	...	2 8	0 78	—	—
8. Transport	...	3 14	2 41	2 30	1 71
9. Supervision	...	—	3 63	6 72	7 53
10. Watching	...	—	3 23	3 35	3 29
11. Sundries	...	1 77	1 89	2 5	1 91
		124 58	85 90	120 67	126 63

The yields from the various plots were as follows:—

Plot No.	Extent. Acres.	Variety.	Manures applied per Plot.	Yield per Plot. Cwt. qr. lb.	Average. per Acre. lb.
2	5	Watts Long Staple	1,500 lb. of superphosphate	1 3 8	40 4/5
3	1 3/4	Durango American	245 lb. superphosphate, 100 lb. sulphate of potash	0 2 25	48 3/5
4	1 3/4	Durango American	Control	0 1 25	31 4/5
5	1 3/4	Durango American	220 lb. nitrate of soda, 165 lb. superphosphate, 68 lb. sulphate of potash	0 3 11	57
6	1 3/4	Zululand Hybrid	245 lb. superphosphate, 100 lb. sulphate of potash	0 3 1	51
7	1 3/4	Zululand Hybrid	Control	0 2 10	39 3/5
8	1 3/4	Zululand Hybrid	Same as No. 5	1 3 5	120 3/5
9	1 3/4	Durango Local selected	Same as No. 3	1 0 12	74 2/5
10	1 3/4	Durango Local selected	Control	0 3 25	65 2/5
11	1 3/4	Durango Local selected	Same as No. 5	0 2 19	45
12	1 3/4	Zululand Hybrid	Same as No. 3	1 0 12	74 2/5
13	1 3/4	Zululand Hybrid	Control	—	—
14	1 3/4	Zululand Hybrid	Same as No. 5 without superphosphate	—	—
15	3 1/2	Zululand Hybrid	1,487 lb. of kainit	0 3 25	31 1/7
16	1 3/4	Watts Long Staple	185 lb. ammo-phosphate	0 3 17	60 3/5
17	1 3/4	Watts Long Staple	Control	2 0 0	134 2/5
18	1 3/4	Watts Long Staple	500 lb. of superphosphate	2 1 2	152 2/5
19	1 3/4	Watts Long Staple	Same as No. 16	3 2 13	243
20	1 3/4	Watts Long Staple	Same as No. 18	4 1 15	294 3/5
21	1 3/4	Watts Long Staple	Control	3 1 24	232 4/5
22	1 3/4	Watts Long Staple	265 lb. ammo-phosphate	3 1 24	232 4/5
23	1 3/4	Watts Long Staple	Same as No. 18	3 2 27	251 2/5
24	1 3/4	Watts Long Staple	Control	4 1 16	295 1/5

SEASON, 1925-26.

Considerable difficulty was experienced in getting the land ploughed and prepared for sowing, this had eventually to be done on contract at short notice by means of a Cletrac tractor and disc plough.

Soil conditions were most unfavourable for ploughing as the land was like concrete, the contractor did his best, but the output of work was anything but satisfactory.

Eventually 49 acres were sown with cotton as follows:—

	Acres.		Acres.
Cambodia	... 35	Watts Long Staple	... 5
Durango American	... 5	Zululand Hybrid	... 4

Of this acreage, a very promising crop is expected from 25 acres, mainly Cambodia and Durango. The north-east monsoon rains have been exceptionally heavy and prolonged this season, and to this fact and the abnormal weed growth which resulted, and also the poor drainage in certain plots, may be attributed the failure on the remaining 24 acres.

An area of 5 acres was reserved for trials with the following rotation crops:—Kurakkan, adlay, chillies, cow peas, green gram, and black gram.

Minor—Batapola (Galle District).

This station continues to do good work chiefly in market gardening and seed supply. Successful trials have been made with the cultivation of pineapples.

Weligama (Matara District).

Special attention is being given at this station to citronella cultivation, and the following plots of different varieties are well established:—

Acreage.				Variety.
2 acres	...	...	...	Lenabatu or heen pangiri
1 acre	...	...	...	Maha pangiri (local)
$\frac{1}{2}$ acre	...	...	...	Maha pangiri (Java)
$\frac{1}{2}$ acre	...	...	...	Maha pangiri (Peradeniya)
$\frac{1}{2}$ acre	...	...	...	Mana pangiri (Peradeniya)

For the present the crops are transported to a local still for distillation.

Bandaragama (Kalutara District).

This station has a fair area of young rubber which is being utilized for demonstration purposes to small holders.

Cotton Demonstration Plots (Hambantota District).

Two plots of 2 acres each in extent have been established on old cotton chenas with the object of demonstrating that by cultivation of the soil and with the aid of rotation crops, good crops of cotton can be grown on such land over an indefinite period.

Both plots were sown with Cambodia cotton in October. As regards preparation of the land, comparative trials were made with strip forking and complete forking, as it was found impossible to use ploughs owing to the jungle roots remaining in the soil.

Paddy Seed Stations.

Selections for three stations of 5 acres each in extent and one station of 1 acre were made in July as follows:—

Akmimana	...	...	...	Galle District
Richmond College (1 acre)	...	...	...	Galle District
Tihagoda	...	...	...	Matara District
Kobowella	...	...	...	Kalutara District

The lands are leased and the cultivation is done on the share system. Operations began in the maha season, 1925-26, and extended trials are being made of pure-line seed paddy produced by the Economic Botanist.

At each station five strains of these improved paddies are being grown in 1-acre plots.

Paddy Trials.

These have been conducted in co-operation with cultivators on their own lands.

Salt Resisting Paddy.—The trials with the Mokook paddy from Hong Kong, which were being carried out in Kalutara District, continued to give poor results and were discontinued.

Fresh trial plots were started at Ambalantota, Kiula, Mamadala, and Tissa in Hambantota District, where there are large extents of saline paddy land. The results of these trials so far are not very encouraging.

Manure Trials.—117 manurial trials were conducted in the division during maha 1924-25, and yala, 1925. Of these 33 were conducted in the *Galle District*:—Keembiya (5), Akmimana (4), Poddala (8), Heenatigala (8), Gonapinuwala (4), Kirimetiya (4).

Forty-three in the Matara District:—Batuwita (5), Tihagoda (5), Mudugamuwa (7), Kananke (7), Telijawila (7), Kebaliyapala (4), Kamburupitiya (4), Wattegama (4).

Forty-one in the Kalutara District:—Edurugala (8), Kalupahana (8), Bellapitiya (8), Ittapana (4), Warakagoda (1), Kobowella (12).

The manures used were bone meal, superphosphate, ephos phosphate, basic slag, fish manure, and animal meal. The quantities applied varied from 56 lb. to 168 lb. per acre.

No reliance can be placed on the individual results of such manurial trials, although taken collectively they may give indications which will prove of value. These trials also promote interest in the use of manures. With this qualification the following observations are made:—

Bone Meal.—“This manure has given very good results wherever it was tried, but the price is high when compared with ephos or crushed fish.”

Superphosphate.—“The trials with this manure, except at two places, have given excellent results especially with the addition of green leaf. The yields were considerably over the control.”

Ephos Phosphate.—“This manure continues to give good results and compares very favourably with bone meal and superphosphate. The price per cwt. is very much lower than bone meal.”

Basic Slag.—“The trials with this manure were conducted in the Kalutara District and have been found to be very beneficial in peaty soil and newly aswedumized land.”

Fish Manure and Animal Meal.—“The trials with these are not encouraging and in the case of the latter the price is prohibitive.”

“In some instances green leaf was added and wherever this was done the yields were invariably better, but the heavy cost of collecting large quantities of green leaf prevents its use to a large extent. To obtain any appreciable benefit from green leaf large quantities have to be applied.”

COMPETITIONS.

A series of competitions was held in the Division during the year, and, with the object of encouraging the co-operative movement, all were confined to members of Co-operative Societies, with the exception of the cotton competition in the Hambantota District. A good deal of interest was shown in these competitions with, it is considered, beneficial results to the co-operative movement.

Paddy Competition: Galle District.—The Societies in the District were divided into four groups, and a competition was organized for each group. A good number of Societies took part and the entries totalled 95. The fields were on the whole satisfactorily cultivated and the yields good. The following Societies took part:—Ganagama, Telikada, Udugama, Unanwitiya, Elpitiya, Wellaboda pattu, Akmimana, Talpe pattu, and Akuretiya.

Matara District.—Three competitions in transplanting of paddy were held in the District—one for each of the following pattus for the Societies in that pattu:—Gangaboda pattu, Wellaboda pattu, and Four Gravets. There were in all 25 entries.

With the object of encouraging seed selection in paddy, prizes were also offered for the best selected sheaf of paddy weighing 20 lb. When judging the following points were taken into consideration:—Quality of each ear-head (number of ripe grains, number of unripe grains, &c.), size of grain, stoutness, and average uniformity of straw. Three competitions were organized and proved to be very popular. Forty-five competitors took part.

Kalutara District.—(Rayigam korale). The competition was confined to Rayigam korale only, and the following Co-operative Societies took part:—Adikari pattu, Kumbuke palata, Alutgama, Bellapitiya, Haltota, Yalegala. Number of entries 44.

Vegetable Garden Competitions: Galle District.—There were four competitions, and the following societies participated.—Ganagama, Telikada, Udugama, Unanwitiya, Wellaboda pattu, Akmimana, Talpe pattu, Batapola. The entries totalled 56, showing an increase of 100 per cent. over last year. The gardens were also of a high order.

Matara District.—There were three competitions for societies in each of the following pattus:—Kandaboda pattu, Weligam korale, and Morawak korale. The entries totalled 20.

Kalutara District.—There were four competitions, viz:—Miscellaneous vegetable gardens, chillies, brinjals, and snake gourds. The competitions were confined to Rayigam korale, and the following societies took part:—Kumbuke palata, Kumbuke pattu, Alutgama, Bellapitiya, Haltota, Yalegala, Handapangoda, and Kalupahana. The entries totalled 39.

Cotton Competitions: Hambantota District.—There were five competitions for the following divisions:—

East Giruwa pattu :—

Paranagam palata	...	...	...	...	1
Wewgam palata and Pahawalakada	...	...	...	...	2
Moderagam and Ihalawalakada	...	...	...	...	3
West Giruwa pattu	...	...	...	...	4
Magam pattu	...	...	...	...	5

The competitions were well appreciated and there were no less than 731 entries from all the divisions. Money prizes were given and also five gold medals offered by Mr. E. S. Captain of the Ceylon Spinning and Weaving Mills Company as an encouragement for cotton growing.

This competition is continued during the 1925-26 season, and the offer of gold medals has been repeated.

Police Gardens Competitions.—The garden competitions held annually among members of the Galle District Police Force was also conducted during the year. The gardens were of a higher order than previous years, and 2 stations along the coast had done excellent work. More interest has also been shown in economic gardening.

Fernando Waidyasekera Prize (Rs. 100).—Through the generosity of Muhandiram Fernando Waidyasekera this competition is being continued for 1925-26 in the Kalutara District among school gardens. The 1924-25 competition was well appreciated, and there were 55 gardens competing.

SCHOOL GARDENS.

The number of registered school gardens in the division is 148 as follows:—

Kalutara District	...	44	Hambantota District	...	21
Galle District	...	31	Grant in aid school gardens	...	14
Matara District	...	38			

There are, in addition, 27 school gardens awaiting registration, and also 48 noted for inspection and report.

The District School Committee, Kalutara, has voted a sum of Rs. 750 for the registration of 11 new school gardens in that District. Recommendations have been submitted to the Chairman, District School Committee, for approval, when arrangements will be made for the issue of implements.

The District School Committee, Matara, voted a sum of Rs. 225 for the registration of new school gardens, and the following have been registered during the year:—Pallewela B, Talpawila G, and Akuressa M.

Implements to the value of Rs. 1,200 have been supplied to existing registered school gardens.

A large number of school gardens require improvement in regard to fences and wells. A census of requirements has been prepared.

There are 36 bee-hives in Government schools:—

Kalutara District	...	7	Hambantota District	...	16
Matara District	...	13	Galle District	...	—

Awards to the value of Rs. 700 and certificates were given to 78 Government school teachers who did good work in gardening.

Awards amounting to Rs. 200 and certificates were granted to 238 boys who distinguished themselves in home gardening.

A supply of king yam (*Jaffna yam*) received from the Divisional Agricultural Officer, Northern, has been distributed to 20 school gardens in the division. Satisfactory reports have been received from most of the teachers who received these yams for trial last year.

Gliricidia maculata and *Tephrosia candida* seed was distributed to a large number of school gardens.

Adlay (*Coix Lachrymae jobi*) seed has been supplied to 19 school gardens for trial.

Ten thousand *Duranta* cuttings have been distributed from the G/Horadugoda school garden, where there is an excellent *Duranta* hedge, to other school gardens.

Teachers in Hambantota District grew cotton this year also in their school gardens.

Teachers in charge of registered school gardens and also home gardeners are being especially encouraged to grow chillies, garlic, turmeric, onions, ginger, and other curry stuffs in their gardens.

The following school gardens have this year won prizes: (1) Warakagoda Boys', (2) Tantirimulla Boys', (3) Walallawita Boys', from the sum of Rs. 100 which was offered by Muhandiram Daniel Fernando Waidyasekera of Panadure for the best 3 school gardens in the Kalutara District. School garden work in Kalutara District continues to improve largely as a result of this competition.

At a meeting of the Matara District Agricultural Committee, a prize of Rs. 15 was offered by the Mudaliyar, Wellaboda pattu, for the best school garden with the largest number of home gardens attached to it. Similar prizes were offered by Messrs. E. J. Buultjens, D. Samaraweera, and Mudaliyar, Gangaboda pattu, for Morawak korale, Weligam korale, and Gangaboda pattu respectively.

Kalutara.—A resident of Pasdun korale west has given a sum of Rs. 50 to be awarded for the three best home gardens worked by school children in Pasdun korale west. The competition will be an annual one.

The number of home gardens is increasing year by year, and there are now more than 5,000 home gardens attached to registered school gardens.

Careful attention to Nature teaching in school, where there are registered school gardens, is being given by the Inspector.

There are 20 teachers in Government schools of this division who have had their training at the Peradeniya School of Tropical Agriculture. Their work has been found satisfactory. The improvement shown in school garden work in the division is being maintained.

CO-OPERATIVE WORK.

In this division there are 78 Co-operative Societies, which are distributed as follows:—

Galle District	...	...	23	Hambantota District	...	...	5
Matara District	...	...	19	Kalutara District	...	...	31

A statement of work done in connection with these Societies is given as a separate report.

G. HARBORD,
Divisional Agricultural Officer, Southern Division.

NORTHERN.

EXPERIMENT STATION, JAFFNA.

Farm Improvements.—The school buildings have been completed and occupied during the year. The planting of shade trees round the school buildings has commenced.

The installing of a cistern for pipe supply of water to the school buildings and officer's quarters is in hand and will be completed shortly.

The pumping installation which was fitted to the new well was not available for irrigation during the year owing to the necessity of a reservoir to control the water raised. A concrete reservoir of 15,000 gallons capacity has however been provided by the end of the year.

Good progress was made in the constructions of roads, and about 400 cart loads of metal were carted and spread over the road.

The work of bringing new areas under irrigation by lowering the land and reducing it to level was continued whenever possible.

Implements.—The ploughs and harrows in use on the station were in demand by local cultivators and were lent out on hire as opportunity allowed. The ploughs most in demand are the Empire Pony plough and the Monsoon plough. The Meston and Monsoon ploughs have proved most useful on the station. They are the most suitable for the red soil garden lands of this district.

Live Stock.—A start was made during the year for the formation of dairy herd by the introduction of two heifers and two bull-calves from the school dairy at Peradeniya. They are doing well. The number of drought animals remained the same as in the previous year.

Season.—The rainfall on the whole was irregular. The rains during February and March were somewhat untimely and affected both the yield and quality of tobacco in general. There was no rain from April to September, which was unfavourable to the hot weather crops. This year the monsoon rains were considerably delayed and this coupled with subsequent breaks in the monsoon proved unfavourable to most crops on the farm. The total rainfall amounted to 46.15 inches, as against 65.29 inches in the previous year.

Tobacco.—The principal crop on the station was planted both early and late. The season was, however, favourable to the early planted crop, while the late planted crop on account of the prolonged rains in February and March has given very poor yields.

(a) *White Burley Tobacco: Dry Cultivation Experiment.*—A successful attempt was made for the third time, this year to grow tobacco without irrigation, by employing methods of dry farming.

A crop of 2,225 plants yielded 670 lb. of cured leaves which works out at 3.3 plants per pound. The crop was of fine quality containing a good proportion of bright leaves. 100 leaves of average size selected from the tobacco grown without irrigation weighed eight per cent. more than the same number of leaves similarly selected from the plants grown with irrigation. It was observed that irrigated plants developed thinner leaves than the unirrigated. The presence of sun spots were more marked in the leaves of the irrigated plants than in these of the unirrigated.

(b) *White Burley: Seed Test.*—Seed of White Burley was imported from America in 1923 for trial as the local White Burley (seed of which was originally obtained from Kentucky in 1914) was found to degenerate and was again tried this year. The results of the trial this year confirms that of the previous year, and the order of merit in point of yield and quality is as follows:—(1) American, (2) Indian, and (3) local.

(c) *White Burley: Spacing Experiments.*—The plants were spaced 3 feet by 3 feet, 3 feet by 2 feet, 3 feet by $1\frac{1}{2}$ foot, and $2\frac{1}{2}$ feet by $2\frac{1}{2}$ feet. The results were contradictory to that of the previous year, and therefore they cannot be taken as conclusive. The development of the leaf was greatly influenced by the distance of planting. Close planting diminished the size and thickness of the leaf while wider spacing of plants tended to produce coarse leaves.

(d) *White Burley Tobacco: Manurial Experiments, Field No. 7.*—This experiment which was started in 1923 to compare the various methods of manuring practised in the locality was continued. The residual effects of these manures on the succeeding crops of kurakkan and thenai have also been noted. It may be stated that artificials in conjunction with green manure gave the highest yield.

(e) *Tobacco Varieties.*—Three varieties: Adcock, Mauritius, and Green River Burley were grown tentatively in small plots.

Chillies: Selections.—Selection work with chillies was continued. Comparative field tests with eight of the leading types of the 1922 selections were made this year. Strains Nos. 7, 8, 9, and 12 were the heaviest yielders. These will, therefore, be retained for further tests.

Thirty-eight single plant selections were under observations during the year and the results were noted.

Tenai (Italian Millet) Selections.—Comparative tests with tenai selection were continued. Strain No. 10 which occupied an area of three-fourth of an acre in field No. 7 after tobacco gave an acre-yield of 1,760 lb.

Sen-tenai.—A red grain variety was again tried this year but failed owing to late sowing.

Kurakkan.—(a) Selections were continued. The 20 M. V. types proved better than the purple glumed types and these will be put out for field test during the coming season. The purple glumed types which were of a shorter duration possessed the disadvantage of shedding off the grain during rainy weather.

(b) *Manurial Experiments.*—The effects of a light dressing of nitrate of soda at $\frac{1}{2}$ cwt. per acre gave a good return. The cost of the manure is Rs. 7.50 brought in at least Rs. 30 worth of grain.

Kurakkan and Ground-nut mixed.—Ground-nut was sown in field No. 4 in a standing crop of kurakkan to see whether the crop will fit in with the local system of rotation. The yield of kurakkan is 1,936 lb. The ground-nut crop is still standing and the results will appear in the next report.

Kurakkan: Spacing Experiment.—Spacing was adopted 4 inches apart and 6 inches apart indiscriminately. The former gave a higher yield of grain and straw.

Cambu which occupied $\frac{1}{32}$ acre yielded at the rate of 1,120 measures per acre.

Sami (Panicum mileaceum).—Sown amidst $\frac{3}{8}$ -acre plot of yams yielded 1,414 lb. of grain and 3,466 lb. of straw.

Maize.—Maize Hickory King and Small dent which were sown in $\frac{1}{4}$ -acre plot yielded 1,184 lb. and 1,224 lb. per acre, respectively.

Other Cereals.—Trials with buck wheat and adlay resulted in a partial success.

Fodder Crops.—Repeated trials with raising successive crops of fodder cholam have shown that it is the most economical fodder. Its cultivation is rapidly extending in the district. $1\frac{1}{2}$ acre of periyamanjal cholam was sown in the compound. About $\frac{1}{2}$ -acre crop was cut at milk stage for the trench sile and yielded 8,709 lb. of materials. The total quantity of ensilage obtained was 6,592 lb. The cattle relished this new form of food, about 3,365 lb. of straw was obtained from the remaining 1 acre.

Chirai Cholam.—A white grained variety was sown in an area of $\frac{1}{4}$ acre in the exotic crop plots. It yielded 3,200 lb. of straw per acre.

Bombay Fodder Cholam continue to show promise as a good fodder variety, but the yield of straw is not very encouraging.

Guinea grass grew better this year after the clumps were quartered and yielded 32,305 lb. per acre.

Napiers grass yielded only 22,300 lb. of grass per acre on account of the clumps having become overgrown, which necessitated replanting which has been done by the end of the year.

Lucerne did well and yielded three cuttings amounting to 21,088 lbs. per acre.

Egyptian clover sown in an area of one acre failed to grow. An application of nitrate of soda at 1 cwt. per acre showed very much better effect on the crop.

Kolukattai grass (Pennisentum cenchroides) which was sown in the paddock last year has established. It seems to stand grazing well.

Sunflower and cluster beans were grown well in $\frac{1}{2}$ -acre plot for the sile and yielded 8,042 lb. and 1,776 lb., respectively.

Leucaena glauca promises to be a good fodder crop. The ripe pods were gathered twice during the year and an acreage yield of 1,040 lb. was obtained. The seed was given to the cattle either crushed or boiled.

Cow peas sown along the bunds yielded a fair quantity of green fodder during February and March.

Betel Vine.—2,000 cuttings of betel vine were established. The crop was very promising, but it had to be abandoned as the area with the well was required by the Jaffna Urban District Council for the water supply scheme. About 7,800 leaves were gathered to date.

Tomatoes.—The early and late planted crops which occupied $\frac{3}{8}$ acre yielded 3,161 lb. per acre. A trial consignment of tomatoes sent to one of the Colombo hotels fetched 25 cents per lb.

Cotton Varieties.—Eight varieties of cotton planted in field No. 1 failed.

Turmeric, which was planted in $\frac{1}{16}$ -acre plot gave a poor yield of 800 lb. of cured produce per acre.

Ground-nut Varieties.—A collection of 14 varieties supplied by the Madras Department of Agriculture were multiplied. The total yield of ground-nut from an area of $1\frac{1}{2}$ acre is 1,001 lb., which works out at 667 lb. per acre. The yield was rather poor on account of the unfavourable season.

Sweet Potatoes.—Eight varieties were planted in an area of $\frac{1}{4}$ acre. The crop was badly spoiled by weevil pest and only 107 lb. of tubers were obtained.

Green Gram.—This crop followed sorghum in field No. 5 and yielded 94 measures per acre on account of the severe drought.

Yams.—Varieties: 14 varieties of yams were tried during the year.

The planting of whole yams vs. sections of yams was compared. The results are in favour of the former.

Plantains.—There are 13 varieties in all. Several clumps were affected by a stem disease of plantains. A specimen of a diseased plantain was sent to the Mycologist who reported that the disease is caused by a fungus which resembles *Marasmius seminatus* which has been recorded as a stem disease of plantains. The crop has been on the land for four years and has deteriorated.

Cucurbits.—Varieties of pumpkins grown in an area of $\frac{1}{2}$ acre yielded 2,471 lb. of fruits. A collection of varieties of melons and gourds was tried with success.

Fruit plots of limes, pineapples, pomegranates, and mangoes have been established.

Tentative trials with linseed, coriander, cummin, Cape cabbage, carrots, lettuce, and beet-root proved successful.

Seed Distribution.—The following quantities of seeds were distributed from this station during the year:—

Tobacco seed ...	144½ oz.	Plantain suckers ...	No. 73
Periyamanjal cholam ...	204 lb.	Guinea grass sets ...	4,800
Maize ...	12 "	Tobacco seedlings ...	37,650
Ground-nut ...	79 "	Chillies seedlings ...	8,700
Cambu ...	45 "	Kurakkan seedlings bundles ...	968
Cow pea seed ...	6 "	Tomatoes seedlings ...	500
Chillies ...	10 "		

Seeds issued to Government Institutions.

Periyamanjal cholam ...	18 lb.	Ground-nuts ...	286 lb.
Dry chillies ...	602 "	Plantain suckers ...	No. 20
Maize ...	118 "		

DRY ZONE EXPERIMENT STATION, ANURADHAPURA.

Season.—The total rainfall for the year was 51.75 inches, slightly below the average for the past four years. The north-east monsoon was rather late and this delayed the sowing a little bit. The season was on the whole normal.

Crops: Sisal Hemp.—Extraction of fibre was carried on regularly for nine months during the year. Wilting of leaves was noticed to a large extent during August as a result of severe drought. The total output of dry fibre for the year was 13 tons 7 cwt. 2 qrs. 17 lb. of graded fibre, an increase of 4 tons 7 cwt. 2 qrs. 17 lb. over last year's crop. The sales have been affected in Colombo at Rs. 400 per ton. Poling has been fairly general during the year. It is evident that the life of a sisal plantation, under conditions in the dry zone, is 6 to 7 years. A start will be made shortly to uproot the plants in plots D 1 and D 2 and to replant that area; with a view to this end nurseries of young plants have been established and are growing well. Cleaning between the rows of fibre in plots D 1 and D 2 was effected at a cost of Rs. 35 per acre.

Mauritius Hemp.—The Mauritius hemp plants were noticed to pole for the first time since planting in November, 1917. It has been decided to uproot the plants in this area, and grow a more beneficial crop.

Roselle.—Roselle fibre was again a failure this year and was ploughed up after collecting some seed. Fresh seed from outside may produce better results.

Kapok.—The pruning experiment started in November, 1924, has been continued. The pruned plants are throwing out a fair number of healthy side branches. A few plants have begun to fruit. The plants are growing vigorously and seem to have benefitted much by mulching.

Oil Palms.—The pruning and fertilization experiments started in 1923 were continued during this year. There is a distinct improvement in the size and numbers of fruit in the fertilized trees compared to those under natural fertilization. Under the heavy pruned area 673 lb. of fruits were collected from the trees, and under the light pruned area 1,015½ lb.; 1,969½ lb. of seed were obtained from the whole area under oil palms during the year, 1,039½ lb. in excess of last years crop.

An oil extracting experiment from the pericarp of the fruit according to the "Nigerian Bulletin" was conducted. Two methods were tried, the "Hard" oil process and the "Soft" oil process; the former appears to be the more successful method of the two. The oil obtained was clear and of a bright red colour. 15 lb. of ripe fruit yielded one bottle of oil weighing 2 lb. kernel oil was also extracted. 15 lb. of kernels yielded one bottle of oil weighing 1½ lb., and 12 lb. of oil cake. Nurseries of self-sown seedlings were transplanted in beds. Half the number of beds were shaded while the other half was left exposed to the sun. 90 per cent. of the plants in the shaded plots and 80 per cent. in the unshaded plots have been established and are growing well. The area has been regularly disc-harrowed and the dead branches and dried up inflorescences were removed and burnt. The matchets usually used in the West Indies being specially suited for the purpose. One palm was affected with bud rot during the year. The red weevil of coconut did not do any serious damage.

Citrus: Lime Area.—The lower branches that trailed over the ground were removed. A number of trees were affected by "Gummosis." All dead trees and branches have been removed and burnt. The vacancies have been supplied with plants from our nurseries. The whole area was ploughed and disc-harrowed regularly. Two lb. of bone meal were applied round the plants and forked in. 307,173 lime fruits were picked or collected during the year, an increase of 87,509 limes over last year's crop. There was a constant demand for fruit from traders and others from all parts of the Island. Price ranged from Rs. 7.50 to Rs. 15 for picked limes and Rs. 2 to Rs. 6 for dropped limes. It would appear from the results so far obtained that the future prospects of the lime industry in the dry zone are of a promising nature and considerable interest has of late been awakened in this cultivation.

Coconuts.—Planted in 1916 on unirrigable land consisting of 165 palms, 89 palms gave 1,034 nuts an average of 11.62 per bearing palm. The land was ploughed every three months and disc-harrowed every month. Two palms were affected by bud rot, the red weevil and the rhinoceros beetle did very little damage.

Paddy: Paddy field near lime area.—The following are the results of the paddy manurial experiment:—

Variety sown.	Quantity sown per Acre.	When sown.	Manure applied.	Date when harvested.	Average Acre Yield.
Illankalayan	... 1½ bushel ...	November, 1924	Farm yard manure	March, 1925	47 bushels
Do.	... do. ...	do.	Sisal refuse	do.	36 "
Do.	... do. ...	do.	Green manure	do.	43 "
Do.	... do. ...	do.	Control	do.	50 "

Multiplication of pure-line paddies—30 strains of seed paddy which have been obtained by selection were sown during the yala season, and 30 strains during the maha. It is worthy of note that many of the varieties have come into maturity earlier than their period of growth as recorded by the Economic Botanist. The yields have been on the whole very good, except where the levelling necessitated the removal of the surface soil to fill in the lower portions. These should recover in time after cultivation and green manuring.

The fields in close proximity to the lime area have been sown as follows:—Twelve plots were sown with illankalayan paddy, 6 plots with heenet, and 9 plots with kandi murungan. These varieties which are the most popular in the district have been specially sown for supplying local demands.

Economic Plots.—No work of a special nature was undertaken in these plots as all the labour available were used in asweddumizing paddy land and extracting sisal fibre. King and elephant-foot yams yielded 3,400 lb. and 6,400 lb. per acre, respectively. The following crops were also grown:—Maize, Job's tears, brinjals, different varieties of musk and water melon, varieties of tomatoes, varieties of chillies, varieties of snake gourd, varieties of pumpkins, varieties of beans, cow-peas.

Fruits: Pineapples.—The plot bordering the channel has been extended. A portion of the plot has been planted with Gliricidia stumps to serve as shade trees. It has been found that pines grown under light shade give better crops. A very good crop of pineapples of the Kew and Mauritius varieties were obtained in May and June.

Pomegranate.—Sixteen seedlings raised from seeds from Point Pedro were planted. The plants are growing well and have begun to flower.

Avocado Pear.—A plot has been planted out near the Economic Botanist's Store. The plants are not doing well.

Plantains, cashewnut, mangoes, oranges, mandarines, grape fruit, masang, soursops, mulberry, guavas, and custard apples gave fair crops.

Sugar Cane.—Six plots of 1/10 of an acre each were ploughed and disc-harrowed and the cane cuttings planted in furrows 5 feet apart on half the area and 6 feet apart on the other half. The cuttings were placed in the furrows 3 feet apart in the 5-foot rows and 2½ feet apart in 6-foot rows. The varieties planted are as follows:—DK 74, 55 P, red top Mauritius, Sealy's seedling, 131 P, striped Tanna, Barbados, Sin Nombre.

Miscellaneous: Wire Fence.—The portion from the lime area on to the sisal area has been strengthened by replacing the old decayed fence posts with new ones.

Construction Work.—A bungalow for the Manager has been built on the station.

Hedge.—The Madras thorn hedge has been trimmed and vacancies supplied with seed.

Cattle.—A pair of Nellore bulls have been purchased.

Pump.—A new pump for pumping water to the sisal washing tanks has been installed.

Roads.—A portion of the proposed main drive through the sisal area has been constructed.

Labour.—Labour has been plentiful except during the months of November and December. The health of the coolies has been fairly satisfactory. Quinine and salts have been regularly administered to all the coolies.

Chena Sowing.—Two acres of newly cleared land towards Pankuliya village have been sown with chena crop of Thillanayagam paddy and the high land with kurakkan.

Plants and seeds to the value of Rs. 30 have been supplied free of charge to villagers.

EXPERIMENT STATION, KANNIYAI, TRINCOMALEE.

The station is now entirely reserved for paddy. The improved strains of pure-line seed paddies, namely, K 5 and F 17 were obtained from the Economic Botanist, Peradeniya. These were cultivated in an area of 1 acre under broadcast and transplanting methods. Besides these, mutusamba of local variety was sown in plots which were manured with cow dung, green leaves, and artificial manures. The improved strains gave very satisfactory results and the yield per acre was 55 bushels in the case of K 5, and 50 bushels in the case F 7. About 50 bushels of pure-line seed paddy were available for the munmari, 1925-26. About 43 bushels were issued free of cost to 11 reliable cultivators of the district on agreement, with the understanding that they would undertake to sell to the Department of Agriculture half of their crops at ruling market rates. About 25 acres of land is now being cultivated under these 2 varieties, and good reports have been received from the cultivators regarding the condition of these varieties in their different localities. When these 2 varieties are increased at the Experiment Station, Kanniyai, and in the district by the present cultivators, there would be enough seed paddy available during next year for putting more lands under these 2 varieties. The trial of local variety also gave good result. Best yield was obtained from plot manured with green leaves in addition to superphosphate.

Limes (British Guiana).—These have been grown well in the station and young plants totalling about 50 have been distributed to local land owners who are interested in its cultivation.

Pineapples.—The 2 varieties, viz., Kew and Mauritius grown in this station have been distributed to teachers of school gardens and land owners.

Plantains.—Suckers from 14 varieties of plantains grown in this station have been distributed to several land owners, and there is much demand locally for these suckers as the price of plantains has gone up very high.

Kapok.—This is cultivated along the boundary fences of the station and it is growing satisfactorily.

Extension.—An acre of land is added to the existing 5 acres and the new extended area is to be cultivated with plantains for meeting the local demands for increasing its cultivation.

PADDY SEED FARM, MANNAR.

A paddy seed farm of about 6 acres was opened at Uylankulam during August. Two pure-line varieties, viz., murungan and karuppu chenatti paddies were sown. The seed will be available for distribution for 1926 cultivation.

ALLAI SUGAR CANE EXPERIMENTS.

Sugar cane experiments were started in August, 1925, at Allai. Two lots of 5 acres each were selected, 1 area being low and the other high by the banks of the Kiliveddy river. The lower land was opened first. The forest was felled, burnt and stumps uprooted. The land was ploughed, cross ploughed, and levelled. The side roots were collected and burnt. Two and a half acres were planted with 11 varieties of canes in furrows made by double mould board plough 5 feet by 3 feet apart in November last. The germination of the canes was poor owing to heavy rains and flood when planted and also owing to the attack of white ants and hare. The unplanted area is being levelled to prevent further damage from floods.

WHITE BURLEY PURCHASE SCHEME.

The extension of White Burley cultivation in the Jaffna District is continuing to progress rapidly. During the year under review 268 cultivators in 29 villages grew 114,873 plants, as against 6,314 and 24,719, respectively, in the previous two years.

This year the cultivators delivered the crop on the station as cured produce amounting to 14,131 lb. and a sum of Rs. 11,025.15 was paid off for the same. The price per pound of tobacco varied from 70 to 80 cents, but the prices were fixed according to the grades of tobacco offered. This year the crop was consigned in 70 bales of 2 cwt. each to the Crown Agents for sale. This was less expensive than the previous practice of packing in cases. The first consignment of 3,136 lb. fetched 1s. 7d. per lb., while the second consignment of 10,502 lb. fetched 1s. 5½d.

PADDY CULTIVATION.

The Agricultural Instructor, Jaffna, made five visits to the Kacheheri area and visited several centres in the Jaffna District. Advice in regard to preparation of land, sowing, irrigation, seed selection, and manuring was given.

About 36 cwt. of bone meal were bought by the farmers to the knowledge of the Instructor.

The Agricultural Instructor, Trincomalee, encouraged transplanting in his district. This was practised at Andankulam.

The Agricultural Instructor, Mannar, encouraged the application of green manure for paddy lands.

PADDY MANURIAL TRIALS.

The Agricultural Instructor, Jaffna, conducted six manurial trials with bone meal and superphosphate in conjunction with Ammonium sulphate in the Jaffna District, and one with fish guano and sulphate of ammonia at Vavuniya. In co-operation with Messrs. Shaw, Wallace, & Co., he had 3 plots in the Jaffna District with horn and meat meals.

AGRICULTURAL COMPETITIONS.

The following competitions were held:—

(1) Green manuring competition	...	...	Mannar
(2) Garden competition	...	...	Mannar
(3) Vegetable gardens competition	...	...	Vavuniya
(4) Tobacco gardens	...	...	Vavuniya
(5) Paddy growing	...	...	North-Central Province

DEMONSTRATIONS.

Two ploughing demonstrations were held at Jaffna and the Agricultural Instructor demonstrated the method of curing White Burley tobacco in 15 villages.

LECTURES.

The following public lectures were given at the Tinnevalley Farm School:—

- (1) Divisional Agricultural Officer, North-Western Province, on onion cultivation.
- (2) Senior Agricultural Instructor, Kandy, on garlic cultivation.
- (3) Divisional Agricultural Officer, Northern Division, on chillie cultivation.

The Divisional Agricultural Officer gave a lecture on green manuring at Ponnavehi and one on cattle breeding at Iranaitivu. Besides several lectures on co-operative societies.

The Agricultural Instructor, Jaffna, gave five lectures on seed selection, paddy cultivation, and White Burley tobacco cultivation.

FODDER CROPS.

In the Jaffna District the cultivation of crops exclusively for fodder is a new thing. There is always a great demand for fodder. Some have begun to realize the value of growing fodder crops. During the year 40 farmers grew periyamanjal cholam. The cultivation of Guinea grass is extending.

COCONUT.

The Agricultural Instructor, Jaffna, visited five coconut estates and advice was given in regard to manuring, cultivation, and pest control. Red weevil and Black beetle are doing damage to trees.

PLANTAIN CULTIVATION.

Special attention was given to this crop in the Jaffna, Trincomalee, and Mannar Districts by the respective Agricultural Instructors.

FOOD PRODUCTION COMMITTEE.

Meetings, have been held from time to time at Mannar, Trincomalee, Vavuniya, and Anuradhapura, while one meeting a year is held at Jaffna.

SCHOOL GARDENS.

There are 70 school gardens in the division distributed as follows:—

(1) North-Central Province	... 43	(4) Mullaitivu District	... 8
(2) Jaffna District	... 4	(5) Trincomalee District	... 7
(3) Mannar District	... 8		

The registration of 7 more schools, most of them in the North-Central Province, is held up for want of funds.

A supply of vegetable and flower seeds has been distributed to all schools as usual and also tools as required.

W. P. A. COOKE,

Divisional Agricultural Officer, Northern Division.

REPORT OF THE JAFFNA FARM SCHOOL FOR THE YEAR 1925.

The Farm School was opened on September 28. There were 30 applicants, of whom 12 only had the necessary qualifications and the 12 were admitted. All the students come from the Northern Province excepting 2. Of these 2, one is a Burmese, who was reading as a student in one of the Jaffna Colleges, and the other comes from Puttalam District. There would have been a greater number of qualified candidates seeking admission, if the term had commenced in May or thereabouts. As it was, when the school was opened in the latter part of September, college students found it difficult to come in, as they had already sent in their applications to sit for the Cambridge Local Examinations.

Hostel.—Two messes are being run to cater separately for the vegetarian and non-vegetarian students.

Staff.—The following officers gave lectures on subjects noted against their names:—

Divisional Agricultural Officer, Northern Division, assisted

by Mr. N. Senathiraja	...	... On General Agriculture and Dairying.
The Farm School Officer,	...	... On Agricultural Chemistry, Agricultural Botany and Crops.
The Agricultural Instructor, Jaffna	...	... Agricultural Physics and Agricultural Zoology.
The Inspector of Co-operative Societies	...	... On Co-operation.
Assistant Veterinary Surgeon	...	... On Veterinary Science.

Laboratory and Library.—The equipment is on hand and will be completed shortly.

Students' Practical Work.—Each student is cultivating 1/10 of an acre of land with ground-nut on beds, onions, tomatoes, bandakka, and coriander as a mixture on ridges and furrows.

School Garden.—The premises are being planted with shade and fruit trees. The following varieties of Indian grafts have been planted during the latter part of the year:—

Mangoes.			Oranges.		
Number.		Varieties.	Number.		Varieties.
5	...	Alphonso	9	...	Coorg
5	...	Gundu	9	...	Malta
5	...	Khorder Nassand	9	...	Satgur
5	...	Badani	9	...	Centra
5	...	Dil Nassand			
5	...	Naalga			
5	...	Bangalore			
35			36		

Three rose apples, 3 sapodillas, 3 figs, 3 pomegranates, 2 grape vines (all grafts), and 12 British Guiana limes were planted in addition to the above.

Buildings.—The buildings have been completed—construction of silo and laying of underground pipes for water service is on hand and will be completed shortly.

Dairy.—A start has been made with 4 Scindi calves (2 bulls and 2 heifers) brought down from Peradeniya.

V. CANAGARATNAM,
Farm School Officer, Jaffna.

NORTH-WESTERN.

PADDY.

1. *Demonstration in Paddy-growing.*—Demonstrations in manuring, weeding, transplanting, and ploughing with iron ploughs were conducted during Yala season, 1925, and Maha season, 1925-26, with the co-operation of 24 cultivators over an area of 43 acres of paddy land in Kurunegala, Pilessa, Pussella, Maraluwawa, Habage, Ihala Ketha, Linigiriya, Bogamuwa, Diyaturai, Hiripitiya, Nabirithawa, Balalla, Bandara Koswatta, Kuliyaipitiya, Tattewa, Atamune, Meddegama, Buluwela, Gonigoda, Weuda, Kankaniyanmulla, and Medamulla. Seven of these demonstrations were conducted with the help of teachers and students of Government vernacular schools.

Forty-two cwt. of artificial manures were supplied to the cultivators by the Department of Agriculture.

2. *Trials with Pure-Line Types of Paddy Varieties.*—Of the 3 types of yala paddy sent for trial in the North-Western Division, 2 varieties Bf-20 and De-19 were grown at Pussella as a late crop during Maha season, 1924-25, and the third type Mc-8 was grown at Bogamuwa during Yala season, 1925. These have not given satisfactory results.

Four of the original types of Maha paddy, viz., G-1, P-15, P-5, and E-14 were grown at Pussella, Bogamuwa, Pilessa, Maraluwawa, Awlegama, Narammala, and Kuliyaipitiya during the Maha season, 1925-26. Two bushels of the G-1 type was originally sown at Pussella and Bogamuwa during Maha season, 1923-24. The growth of the crop and the yields obtained during that season, and the next proved to be so satisfactory to the cultivators that 26 of them have sown 73 bushels of this type in 8 villages during the maha season, 1925-26.

In order to conduct trials to find out the best pure-line types of paddy suitable for this Division, 3 acres of paddy land at Kurunegala and 5 acres at Madampe were leased out by the Department.

The following types have been grown at—

Kurunegala, sown broadcast: F-25, W-15, P-5, G-1, a-8, i-10, g-18, and k-16.

Transplanted: F-25, W-15, P-5, G-1, a-8, i-10, g-18, and k-16.

Madampe, sown broadcast: F-14, F-25, G-1, P-1, P-3, P-5, P-10, W-15, W-17, and a-8.

SCHOOL GARDENS.

There are 99 registered school gardens in the North-Western Division. The following gardens were registered during the year and sets of implements supplied:—

Kurunegala District.—Tiragama b, Kobeigane b, Wadugedara b, Hulogedara b.

Chilaw District.—Paluwelgala b, Pulichchakulama b, Nattandiya g.

Puttalam District.—Madawakkulama b.

Departmental awards have been granted to the following number of home and school gardens in the division:—

School gardens 37, value Rs. 565. Home gardens 54, value Rs. 135.

Forty-seven school gardens took part in the Wright Prize Competition in the North-Western Division, and 12 school gardens in the Schneider Challenge Cup Competition in the Chilaw-Puttalam Districts.

The winners of Col. Wright's prizes for the best cultivation of vegetables were—

In the Kurunegala District: 1st prize, Nakkawatta Vernacular Boys' School;
2nd prize, Meddegama Vernacular Mixed School.

In the Chilaw-Puttalam Districts: 1st prize, Maiyawa Vernacular Mixed School.

The Schneider Challenge Cup for the best kept garden in the Chilaw-Puttalam Districts was won for the second time in succession by the Kelegama school. The Wright prize competition has considerably encouraged the growing of different varieties of vegetables and curry stuffs. The ornamental and fruit sections have been improved. A special effort has been made to popularize the cultivation of curry stuffs in all school gardens and the following varieties were very successfully grown at—

Coriander.—Kudakatnoruwa, Ehetuwewa, Nakkawatta, Meddegama, Madahapola, Hettipola, Awlegama, Horombawa, Moragane Alawwa, and Kobeigane.

Aniseed.—Ehetuwewa, Kobeigane, Alawwa, Nakkawatta, Meddegama, Madahapola, Hettipola, Kudakatnoruwa, and Moragane.

Fennel.—Most of the seeds failed to germinate, only two plants at Madahapola grew to a height of over 2½ feet.

Turmeric and Ginger were grown in almost all the school gardens.

Red Onions were grown successfully in all school gardens. Crops of forty, thirty-five, and thirty-fold were obtained at Kudakatnoruwa, Madahapola, and Ehetuwewa, respectively.

Bombay Onions.—Madahapola, Moragane, Ehetuwewa, Nakkawatta *a*, Nakkawatta *b*, Wadakada, Weuda, Awlegama, and Kobeigane.

Garlic.—Weuda, Madahapola, Kobeigane, Hettipola, Moragane, Meddegama, and Kudakatnoruwa.

Fenugreek.—Meddegama, Nakkawatta, Madahapola, Moragane, Ehetuwewa, and Kobeigane.

Chillies and Mustard were grown in all school gardens.

Special printed forms (in Sinhalese) have been issued to all schools, for crop records to be noted down by the school children, who are placed in charge of small plots in the gardens. These data on the growth of crops, collected by them, have been utilized in Nature Study classes. Many teachers have efficiently conducted lessons on Nature Study, and among them the name of B. R. Senanayake of Nikaweratiya is specially mentioned for the very efficient way, in which he has organized and conducted his work. Although every year improvements are made in many school gardens, yet there are some (*e.g.*, Poramadala, Embalegoda, and Balalla) in which no effort has been made to effect any improvement for the past four years.

The number of home gardens have increased and the school children are keenly interested in the competition for Departmental awards.

Head Teachers of the following schools have taken an active interest in the working of co-operative societies in their villages:—

KU/Meddegama, Atamune, Wariyapola *b*, Hettipola *b*, Nikaweratiya, Pilessa, Watareka, Weuda, *b*, Kumbukwewa, Ehetuwewa *b*, Hunupola, Bogamuwa, Tiragama, Horombawa, Boyagane (Assistant) and CH/Medagama, Kirimetiya, and Walahapitiya.

AGRICULTURAL COMPETITIONS.

(A) *Paddy-growing Competitions*.—The following 5 competitions in the cultivation of 2 pelas of paddy land in the best possible manner were held during the year:—

(1) *Maha Season, 1924-25*.—

(a) *Hiriyale Hatpattu Paddy-growing Competition*.—Prize winners: (1) Hiripitiya Arachchi, (2) M. A. Jayasiri, (3) D. A. Herathamy of Kumbukwewa.

(b) *Dewamede Hatpattu Competition*.—Prize winners: (1) K. M. Gunarathamy, (2) T. M. Malhamy, (3) C. M. Punchi Banda.

(c) *Pitigal Korale North Competition*.—Prize winners: (1) Girigoris Appu of Ihalgama, (2) Ondiris Fernando, Mellewagama, (3) E. P. Wickramasinghe of Unliya.

(d) *Hiripitiya Co-operative Society Competition*.—Prize winners: (1) J. M. Appuhamy of Nabirithama, (2) H. M. Appuhamy of Hunupola, (3) S. M. Ukku Banda of Moragolla.

(2) *Yala Season, 1925*.—

Dewamede Hatpattu Competition.—Prize winners: (1) G. P. Jayathuhamy of Diulwewa, (2) G. P. Dingiri Banda of Diddeniya, (3) T. M. Ukku Banda of Nikapitiya.

(B) *Vegetable Garden Competitions*.—Three vegetable garden competitions, 1 in the Kurunegala District and 2 in the Chilaw District, were held.

(a) *Maha Galboda Megoda Dakunu Korale Competition*.—Prize winners: (1) Elias Appuhamy, Railway Gatekeeper, Muttettugala; (2) Pesa Mudalali of Meddegama; (3) Muthuwa Upasakaya of Udagama.

(b) *Chilaw Vegetable Garden Competition*.—Prize winners: (1) J. Albert Fernando, (2) P. M. Fernando, (3) J. Manuel Perera.

(c) *Nainamadama Vegetable Garden Competition*.—Prize winners: (1) W. P. Fernando, (2) W. S. Fernando, (3) W. H. D. Fernando.

Another vegetable garden competition was organized in the Dambadeni hatpattu by a proprietary planter, resident in the Hatpattu, who donated all the prizes awarded. Officers of the Department judged, 275 gardens entered for this competition.

AGRICULTURAL SHOWS.

Arrangements were made to hold three Agricultural Shows at Narammala, Chilaw, and Wariyapola. The former two were postponed to 1926, and a successful Vegetable Show was held on July 26 at Wariyapola.

DEMONSTRATION GARDEN, DANDAGAMUWA.

A good crop of vegetables was grown during the yala season, 1925. Eight varieties of green manures were grown and the seeds distributed free to villagers. Visitors to the garden were pleased with the cultivation of vegetables and green manures.

LIST OF PADDY DEMONSTRATIONS IN THE NORTH-WESTERN DIVISION.

Name of Owner or Cultivator.	Name of Locality.	Area of Field.	Nature of Demonstration.
(1) <i>Yala Season, 1925.</i> —			
Bilinda ...	Wehera ...	3 pelas ...	Manuring and transplanting
Kiri Banda Arachchi ...	Pilessa ...	3 „ ...	Manuring, transplanting, and weeding
A. B. T. M. Kalu Banda ...	Pussella ...	12 „ ...	Transplanting and weeding highest fold 49
(2) <i>Maha Season, 1925-26.</i> —			
Pesa Mudalali ...	Meddegama ...	1 „ ...	Manuring and weeding
B. G. William ...	Habage ...	1 „ ...	do.
Abilian de Soysa ...	Maraluwawa ...	6 „ ...	Ploughing with iron plough, manuring, transplanting, and weeding
Kira ...	Henemulla ...	1 „ ...	Manuring and transplanting
Appusingho, Vel-Vidane ...	Bogamuwa ...	3 „ ...	do.
A. Kanapathipillai ...	Nabirithawa ...	2 „ ...	Manuring and weeding
G. Don Simon ...	Hiripitiya ...	2 „ ...	Ploughing with iron plough, manuring, and weeding
Podi Singho ...	Diyaturai ...	2 „ ...	do.
A. B. T. M. Kalu Banda ...	Pussella ...	28 „ ...	Manuring, transplanting, and weeding
V. P. Appu Singho ...	Linigiriya ...	4 „ ...	Manuring and weeding
Vel-Dewaya ...	Bandara Koswatta ...	2 „ ...	do.
Aratchi ...	Tattewa ...	2 „ ...	do.
B. S. Perera ...	Kuliapitiya ...	2 „ ...	do.
James de Silva ...	Wariyapola ...	1 „ ...	do.
Teachers and students, Government vernacular schools ...	Atamune ...	2 „ ...	Digging, manuring, transplanting, and weeding
Do. ...	Meddegama ...	½ „ ...	Manuring, transplanting, and weeding
Do. ...	Buluwela ...	1 „ ...	Manuring and weeding
Do. ...	Gonigoda ...	2 „ ...	do.
Do. ...	Weuda ...	1 „ ...	Weeding
Do. ...	Kankaniyamulla ...	1 „ ...	do.
Do. ...	Medamulla ...	2 „ ...	Manuring and weeding

G. E. JAYATILLEKA HULUGALLE,
Divisional Agricultural Officer, North-Western Division.

AGRICULTURAL INSTRUCTORS CONTROLLED FROM HEAD OFFICE PENDING
FURTHER DECENTRALIZATION.

Western Province.

The following extracts are taken from the report of Mr. D. T. J. Weerasuriya, Agricultural Instructor, Veyangoda :—

Great efforts were made to increase the supply of foodstuffs and curry stuffs in the district. Unfortunately a spell of dry weather prevailed during the maha season when the paddy plants were young and when moisture was required.

This unfavourable condition of weather caused serious damage by retarding the successful growth of plants.

Paddy Cultivation.—Much time was spent with the paddy cultivators. Instructions were given to them for successful cultivation, e.g., on seed selection, cultivation, transplanting, irrigation, weeding, &c. These instructions were also followed by demonstrations.

Paddy Manurial Experiments.—Series of experiments are being carried out in the district at different centres to determine the value of different manures on different soils. Paddies of two different ages were used for the experiments, e.g., (a) long-aged variety; (b) early-aged variety.

Shows and Competitions.—With the kind assistance of the Mudaliyar, Siyana korale east, an agricultural show has been organized to be opened in April at Pugoda in Gangagoda pattu in Siyana korale east.

Competitions.—A set of paddy cultivation competitions has been organized for the Siyane korale east. It is based on the instructions given to them on paddy cultivation.

A set of garden competitions has also been organized for the Siyana korale east with the assistance of the Mudaliyar and the Agricultural Committee in the korale.

Restoration of Elas.—The restoration of certain elas in the district is badly felt, and reports on these have been submitted.

Co-operative Work.—Lectures on the cultivation of curry stuffs were given at the following co-operative societies :—

Minuwangoda and Boralessgamuwa.

Coconut.—One case of bleeding disease on coconut was observed on an estate at Indigolla in Gampaha.

All necessary instructions were given to the superintendent of the estate on the treatment for such disease and on control measures to prevent the further spreading.

Two manurial experiments on coconut are being carried out at Motunna on 25 to 30 years old trees on 2 plots :—

(a) To determine the value of certain manure mixtures.

(b) To find out a remedy to prevent the drooping of the flower stalks.

Province of Sabaragamuwa.

The following extracts are taken from the report of Mr. A. Madanayake, Senior Agricultural Instructor, for the Ratnapura District:—

Control of Pests and Diseases.—Lectures were delivered by the Agricultural Instructors on the control of pests and diseases at co-operative meetings where leaflets published by the Department were distributed.

Experimental Plots.—These continue to serve the purpose for which they are intended in distributing various crops that were grown there among village cultivators and school and home gardens.

The cotton experiment started at Embilipitiya is being continued for the third time.

Government has sanctioned the establishment of a new experimental plot at Kuruwita, and the local Food Production Committee has recommended the establishment of another at Mudduwa for Nawadun korale.

Cotton Cultivation.—The encouragement given by the Government Agent to the village cultivators in offering Crown chenas on easy terms on the understanding that half the extent allowed to each applicant is cultivated with cotton is bound to achieve good results.

Paddy Cultivation and Vegetable Garden Competitions.—These organized in previous years were continued again this year, and awards have been made by the Chairman of the Food Production Committee to the best plots from funds provided by the Department of Agriculture.

A plantain garden competition was organized during the year with a view to encouraging the cultivation of plantains on systematic lines.

Paddy Manurial Experiments.—Twenty-two paddy manurial experiments were conducted during the year in 8 centres. Those conducted during yala season gave promising results and the results of maha experiments are yet awaited.

Varietal Tests of Paddy.—Of the 5 varieties of paddies introduced to this district from selected grains by the Economic Botanist 2 varieties have become very popular and are now adopted as standard varieties. Four and a half acres of paddy lands were leased out by the Department to conduct the trials of more new varieties where 6 varieties of different strains are being tried.

Co-operative Societies.—Of the 7 societies established 5 are now alive for active work. Through the medium of these manuring of paddy lands with artificial manures is becoming common in some parts of the district.

School Gardens, Colombo-Ratnapura Districts.—During the year 1924-25 the number of registered school gardens in Colombo District has increased by 17, and that of in Ratnapura District by 6, so that the total now is 128, viz. :—Colombo District 78, Ratnapura District 50. There are, however, 5 more in Colombo District and 8 in Ratnapura District awaiting registration for which it is hoped funds will be available next year.

Attention, where and when possible, has been devoted to the teaching of Nature Study in schools and practical gardening. It is, however, desirable that efforts should be made to find provision for systematic teaching of these.

In some of the school gardens in Ratnapura District progress has been hindered owing to unfavourable weather conditions, which often interfered with the hours set apart for gardening, but it is gratifying to note that some teachers made amends for this by working after hours.

The attitude in the past shown by some parents against the employment of their children at gardening has now died away, and it is a pleasure to see the parents now appreciating the manual labour performed by children.

Of the few gardens attached to aided schools those under the management of the Buddhist Theosophical Society are much more enthusiastically worked than those under Roman Catholic Mission with the exception of the garden attached to Mutwal de La Salle English School, where in spite of various obstacles the garden is well managed.

Twenty-six school gardens in Colombo District and 20 in Ratnapura District received monetary awards and certificates from the Department of Agriculture.

Home gardens increase annually. Seventy-nine children in Colombo District and 53 in Ratnapura District have received cash prizes and certificates.

Eastern Province.

The following extracts are taken from the report of Mr. M. R. M. Jebaratnam, Acting Senior Agricultural Instructor, Batticaloa District:—

PADDY.

Paddy cultivation during the year under review was satisfactory, and the district had the rain fed crop and two irrigation crops, wherever there were irrigation facilities. Manuring during the year under review was made popular among a few cultivators of this district applying green leaves, sweepings, cow and sheep dung were taken up by a few progressive cultivators to a small extent. Owing to the shortage of labour, the absence of sufficient heads of cattle and the lack of funds to meet the additional expenses of manuring, this method does not appeal to many of the landed proprietors or "podies" (T) of this district.

Government Paddy Experiment.—There were two Government paddy manurial experiments conducted during the year, one at Nindoor and the other at Illupadichenai. In the former the experiments were conducted to ascertain the manurial effects of different manures on the yield of "yala" (S) or "kalapokam-vellamai" (T) cultivation under tank irrigation, and in the latter the effect of manuring on the rain fed crop. There were also plots to find out the effect of the weeding and early ploughing on the yield of crop. Quantity of artificial manures applied in the Government experimental plots and the demonstration plots vary from 112 lb. to 200 lb. and green leaves at the rate of 525 lb. per acre.

The Government Nindoor Experiments.—There were 9 plots in all under "yala" or "kalapokam" cultivation, and 8 plots received the early ploughing and weeding. These plots had a seed rate of $1\frac{1}{2}$ bushels per acre. The control plot was cultivated according to the local method and was sown with $3\frac{1}{2}$ bushels per acre, and no weeding was done. This had a yield of 25 bushels per acre. The cost of preparatory tillage, &c., did not exceed Rs. 15 per acre over the control. At the seedling stage the plots were attacked by swarming caterpillar but it was controlled by flooding, and at the milky stage the paddy fly attacked the plots which was kept down by hand nets.

Results are as follows:—

Fish Manure.—When this was incorporated with "kayan" leaves it gave the best results obtaining a yield of $22\frac{1}{2}$ bushels per acre in excess of the control.

Animal Meal.—This manure also has given promising results obtaining $15\frac{1}{2}$ bushels per acre in excess of the control.

Kayan Leaves (Menecylon Capitellatum).—The plot treated with kayan leaves produced a yield of 11 bushels above the control plots. This experiment showed that the yield of paddy could be increased in this district by adopting the use of green manures and early ploughing.

Bone Meal.—Showed very poor results in the experiment giving an increased yield of $4\frac{1}{2}$ bushels and when it is incorporated with kayan leaves it produced $7\frac{1}{2}$ bushels per acre over the control.

Illupadichenai Government Experiments.—This station had 6 plots under "maha" (S) or "munmari" (T) cultivation. Each plot was sown at the rate of $1\frac{1}{2}$ bushel per acre, except the control which had a seed rate of $3\frac{1}{2}$ bushels per acre.

The plots that received the early ploughing and bones gave the largest yield of 23 bushels per acre above the control. The plot that had the early ploughing and weeding had an increased yield of 11 bushels per acre.

Manurial Demonstration Experiments.—These experiments were conducted in different localities of this district to test the effects of different manures and to introduce the practice of manuring among cultivators.

There were 13 experimental plots under munmari and 4 under kalapokam. The average yield of paddy in the areas where plots were laid out was 20 bushels per acre.

Bone Meal Incorporated with Kayan gave good results in Kaluthavalai under munmari with an average increased yield of 24 bushels per acre over the control. When the same treatment was given for "kalapokam" crop the yield dropped to an average increased yield of 11 bushels per acre over the control. But when bone was tried as an individual manure under munmari crop it produced an average yield of 12 bushels per acre over the control.

Superphosphate.—This phosphatic manure gave fairly satisfactory results giving an average increased yield of 19½ bushels per acre over the control.

Fish.—The plots that were treated with this manure did not show satisfactory results in "munmari" crops. There was an average increased yield of 7 bushels per acre over the control. But under "kalapokam" crops when fish is applied with kayan leaves it increased the yield by 15½ bushels per acre over the control.

Animal Meal.—This manure was able to increase the yield of "munmari" crop by 16 bushels per acre over the control. The same when applied with kayan under "kalapokam" crop produced an increased yield of 15 bushels per acre over the control.

Green Manuring.—Sun-hemp and daincha were introduced to increase the fertility and improve the texture of paddy soils in this district. There was good germination of seeds but the crops failed owing to the prolonged drought which followed germination. Further trials are necessary in order to popularize the growing of green manure crops in this district.

Ploughing Demonstrations.—Ploughing demonstrations were held in different localities of the district with Weston plough. The working of the plough was satisfactory, and it has been found that the buffalo was more suitable than the black cattle for this purpose.

Mass Seed Selection.—The sowing of the selected seeds by individual plant to plant selection was carried out at Nindoor. There was a yield of 25 bushels per acre. A heavier yield could have been realized had it not been for the damage done to half the plot by floods during the seedling stage. Selection of seeds from the plot have been made for further sowing.

Pure-Line Strains.—Seeds of 5 varieties of high yielding types of paddy were sent by the Economic Botanist and they were sown at Illupadichenai experiments. Varieties H 66 and H 1 seem to be more suitable for "kalapokam" or "Yala" season than for "munmari" as they are early maturing types about 3 months old.

Brito-Babapulle Gold Medal Competitions.—Dr. Brito-Babapulle of Colombo offered two Gold Medals to the best cultivator in the "munmari" and "kalapokam" seasons. The competitions were confined to the members of the co-operative credit societies of this district. Thirty-six members competed for the "Munmari" and 11 members for the "Kalapokam" Gold Medals. Mr. V. V. Mohamed Ismail of Akkaraipattu Co-operative Credit Society won the Munmari Gold Medal, and Mr. Kanapathipillai Palanithamby of Manmunai South Co-operative Credit Society came out first in the "Kalapokam" Gold Medal Competition.

The yields obtained by the winners were 60½ and 46½ bushels, respectively.

Dharmaratnam Gold Medal.—A gold medal has been offered by Mr. A. S. Dharmaratnam, Vanniah Mudaliyar, Akkaraipattu, for the best cultivator in "kalapokam" of 1926 confined only to Akkaraipattu, Sammanturai, and Karawaku pattus.

COCONUTS.

Cultivation and Manuring.—Careful cultivation and judicious manuring was carried by the planters during the year, owing to the great losses they have sustained from the ravages of coconut pests and prolonged droughts. Tethering of cattle, applying of kayam leaves and cattle dung is the general practice of manuring in this district. Owing to the good results obtained with kayan leaves and the limited quantity available in this district the growing of suitable green manure in the estates has been taken up. About 4½ cwt. of boga medelloa seeds were distributed this year, which have showed good germination. Crotalaria and cow peas are also grown in a few estates. Good results were obtained with boga on a few estates which grew it on previous years. Cow peas gave satisfactory results in estates where ploughing takes place twice a year.

Cotton.—There were about 40 acres that were brought under cotton cultivation in different parts of the district. Cotton was grown in chenas as a mixed crop in Wewagam pattu for about 15 acres with fairly good results. Cotton was grown in the new clearings as a catch crop under coconuts by Mudaliyar K. V. Marcandan on 2 acres.

The following is the statement of expenditure incurred and profits realized during the first year by Mr. S. Kumaraswamy in new clearings in Karinchan estate :—

EXPENDITURE.

			Rs. c.
To clearing, burning, and fencing 5 acres	...	...	105 0
To planting	...	...	9 90
To weeding twice	...	...	19 80
To picking	...	...	65 0
To transport of 12 cwt. of cotton to Wellawatta Mills	...	...	9 60
		Rs. c.	
By sale of 12 cwt. at Rs. 23.75 per cwt.	...	285 0	—
Nett profit	...	—	75 70
		285 0	285 0

Citronella.—An Experiment Station at Dhamanai was opened up during the year for experimenting the possibilities of growing a suitable variety of citronella grass in Wewagam pattu that will give the best results in oil contents for commerce, and to find out whether the local citronella could be improved by systematic cultivation and treatment. The following varieties had been planted in 1-acre blocks at the station:—Lena Batu, Matara Local, Java, Ceylon, and Dhamanai Local.

Vegetable Garden Competition.—Much keenness was shown in the competition. The number of entries was satisfactory when compared with previous years. The number of entries was 275, and 18 prizes were awarded.

FRUITS.

Maha-oya Nursery.—This nursery was maintained during the year under review and supplied 1,185 jak plants and 210 lime seedlings to the Veddah settlers of Bintenne free of charge. The following are planted for distribution in Bintenne pattu :—Coconuts, jak, lime, oranges, tamarind, and chillies.

Distribution of Mango Grafts.—Different varieties of mango grafts were got down from Jaffna and distributed among a few cultivators.

AGRICULTURAL EDUCATION.

School Gardens.—Good work had been done in the school gardens. Five school gardens were registered during the year. There are four school gardens awaiting registration. The total number of school gardens in the district is 47. Good progress has been made in the Government school gardens. There was an improvement in the school gardens that are under the management of the different Missions.

Different varieties of yams, grains, fruit-plants were introduced into the school gardens. Different varieties of curry stuff seeds were distributed to all the school and home gardens in the district. Cotton was cultivated in a small scale. A scheme has already been proposed to grow cotton in some of the Wesleyan Mission schools in Batticaloa South to meet the requirements of the Komari Weaving School. Lectures and instructions were given to the teachers and children on the various crops grown in school gardens, paddy, and on the improvement of village agriculture.

Home Gardens.—There has been a steady increase of home gardens in all centres where good work has been done in the school garden. The small home gardens show good improvement and the children are taking keen interest. Prizes and certificates have been awarded to the best garden in the competition.

Agricultural Shows.—There were three agricultural shows held during the year under review, at Uhana, Akkaraipattu, and Kalmunai with great success. The exhibits from the school gardens and home gardens were very encouraging and greatly appreciated by the public. A new feature of the Kalmunai show was the introduction of various classes for competition for English schools, Anglo-vernacular schools, and Vernacular schools. All the classes were well competed for and it was of very great educational value to the teachers and pupils.

Province of Uva.

The following extracts are taken from the report of Mr. E. W. Dias Bandaranayake, Senior Agricultural Instructor, Province of Uva:—

School Gardens.—During the year five school gardens were registered and implements supplied to them from District School Committee Funds and funds provided by the Department of Agriculture. All registered school gardens and several other unregistered school and home gardens were inspected by me and awards given according to their standard of work. Some more of the unregistered gardens will be recommended for registration.

Agricultural Competitions.—For these competitions there were several entries from the different divisions. Prizes were offered for different cultivations such as paddy, vegetable, cotton, onion, and potato. Cash prizes were offered by the Department of Agriculture to encourage improved methods of cultivation. The judging of these awards were done by the various Ratamahatmayas and myself, and in the Bintenne and Wellassa divisions by the Ratamahatmayas and the Agricultural Instructor, Bibile. There was keen competition for the paddy prizes, and fields that won prizes were very satisfactory.

Paddy Manurial and Seed Selection Experiments.—These experiments were conducted by me within the Local Board limits of Badulla. Local varieties were sown in order to ascertain which was the most suited and also which tillered best. The fields were sown thin in order to show the cultivators how wasteful their method of sowing is. Suduwa gave the best yield and was also found to tiller the best. The cultivators would gradually take up to the method of reducing seed rate as they have themselves now seen the advantages of it. This block of fields has now been converted into a pure-line breeding station owing to the difficulty of obtaining separate land for this work. During the year under review new work of manuring paddy was not undertaken as it was my object to see the residual effects of manuring. Out of the manures tried during the previous year I have had reports to say that the residual effects of bone meal was the best. With one application satisfactory results could be obtained for over two seasons.

Bibile Experiment Station.—The fruit section has been planted out with orange and other fruit trees. Sugar cane has been planted on a larger area and a crushing mill introduced to crush cane and convert juice into jaggery. Next year the work of crushing is to begin. There is a certain amount of damage done by wild boar to the canes grown. Other crops experimented with were manioc, cotton, sweet potato, green gram. A large number of cultivators were supplied with cuttings of different varieties and they have in turn introduced these varieties to remote villages. The cotton experiment was not as successful as last year owing to poor germination of the seed, and also owing to the unusually heavy showers that fell during the picking season.

Meegahakiula Experiment Garden.—This year too the garden in question was planted out with cotton. Two varieties were planted—Watt's Long Staple and Zululand. The germination of the Zululand variety was poor. Watt's Long Staple did better than Zululand yet the yield was not as good as expected owing to there being rain during the opening of the bolls which is quite unusual for Meegahakiula. A few of the villagers planted cotton in their chenas but results were not good.

Uva Agricultural Show.—For the second time in succession this year too a show was held in the town of Badulla and proved a greater success than at first. The exhibits sent in were quite satisfactory. Grain, vegetable, live stock were well competed for. The Sanitary Department very kindly sent models and charts of their work and also an officer to explain them to the visitors. There were a variety of entomological specimens sent by the Department and these were examined by many.

Co-operative Societies.—A great deal of trouble was experienced to get members of the Uva Society together for meetings. Several times attempts were made without success and as the members do not seem to realize the value of a society it has been decided by the Registrar of Co-operative Societies to wind it up. Other societies especially those of Wellassa are doing good work.

Oil Plants.—Eight plants of Mexican Linaloe (*Bursera Delpechiana*) were introduced to this Province. All of them are growing well.

VIII.—REPORT ON THE WORKING OF CO-OPERATIVE SOCIETIES.

THE Co-operative Movement has reached another stage of progress during the year under review. The number of societies has considerably increased. The working capital and the membership have made similar advances with greater benefits to the members. More backward areas have been brought under co-operation and successful work has been begun in these areas. The Government has recognized the growing importance of the movement and has taken steps to strengthen the staff of the Co-operative Branch of the Department. The Registrar returned from furlough in February and assumed duties relieving Mr. T. Petch who was acting as Registrar. Dr. J. C. Hutson acted as Registrar during the absence of the Registrar in India from October 25 to November 30. Mr. W. K. H. Campbell who was deputed to study co-operation prior to his taking up the duties of Joint Registrar left for Europe in April last after spending three months in India visiting co-operative centres in Bombay, Madras, and the Punjab. Mr. W. P. A. Cooke was appointed Assistant Registrar, Northern Division, in June, and Mr. G. E. Jayatilake Hulugalle as Assistant Registrar, North-Western Division, in May. Mr. G. Harbord was transferred to Galle as Assistant Registrar, Southern Division, in place of Mr. F. Burnett who left for England on leave in August.

GENERAL PROGRESS.

Societies.—Sixty new societies have been added to the number of registered societies, and the total number of societies at the end of the year was 299.

Members.—At the end of 1924 there were 28,820 members of societies, and the number of members who joined these societies during the year is 4,810. This makes up a total of 33,630 members at the end of the year.

Capital.—The paid-up share capital of the societies has increased to Rs. 333,299.12 from Rs. 255,083.90 at the end of the last year, showing an increase of Rs. 78,215.22 for the year.

Deposits.—The amount of deposits during the year has made slight increase, and the total amount to the credit of members at the end of the year was Rs. 31,853.88.

Reserve Fund.—The amount to the credit of Reserve Fund of all working societies rose from Rs. 44,603.64 at the end of the last financial year to Rs. 65,161.99 at the end of April this year, thus showing an increase of Rs. 20,558.35.

Loans.—The loan transactions have considerably increased during the year under review. Rs. 419,694.82 have been lent out to members during the year, a sum of Rs. 299,200.51 was recovered, and a sum of Rs. 501,317.65 was outstanding at the end of the year.

PROGRESS IN THE PROVINCES.

*Southern Province and Kalutara District.**(Forming the Southern Division.)*

Mr. G. Harbord, Assistant Registrar, Southern Division, reports as follows with regard to the work in his division:—

General Position.—Although little progress can be shown for the year, yet the general position, particularly with regard to overdue loans has, latterly improved. This improvement has been brought about partly owing to the present prosperity in rubber and tea, but chiefly as a result of the more constant supervision and pressure, which has been brought to bear on the large number of societies which required attention. Failure of members to settle their debts within the contracted time still remains one of the greatest obstacles to the progress of societies, and the Kalutara District is particularly bad in this respect.

Distribution.—Six new societies have been registered during the year, namely:—

Dodanduwa, Pahalaganhaya, and Kumbalwella	...	...	Galle District
Matara Anglican teachers	...	...	Matara District
Warapitiya	...	...	Hambantota District
Horawela	...	...	Kalutara District

All have made a good beginning with the exception of the Kumbalwella Society. Applications for the registration of two other societies are receiving attention, namely:—

Godauda-Kottagoda	...	...	Matara District
Galle Kulangana	...	...	Galle District

No registration of societies was cancelled during the year. The following societies, viz., Atulugama Moors', Urubokka, Hinidum pattu, Meegahatenna, Giruwa pattu west, Bentota, and Kalutara societies have not shown active progress. The total number of registered societies in the division is 78, the distribution and present working positions of these societies is as follows:—

Name of District.	No. of Societies.	Member-ship at the end of 1925.	Paid-up Capital at the end of 1925.	Loans granted during 1925.	Loans recovered during 1925.	Loans outstanding at end of 1925.	Deposits at end of 1925.
			Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Galle	23	3,325	26,750 69	14,271 51	10,900 47	17,761 41	285 79
Matara	19	3,497	27,300 55	19,943 52	19,723 16	28,809 99	1,812 24
Hambantota	5	1,039	4,949 0	2,715 50	2,716 7	7,032 74	162 89
Kalutara	31	4,894	32,492 92	23,356 5	20,768 95	31,671 56	1,404 10
	78	12,755	91,493 16	60,786 58	54,108 65	85,275 70	3,665 2

Supervision and Organization.—Practically all the societies were visited during the year, their books were audited and instructions were given where necessary, by the Inspector, co-operative societies—far too much of his time was also taken up with settling minor disputes and differences. In addition, the Agricultural Instructors attended regularly the meetings of societies in their respective ranges and assisted the office bearers, and also made inspection as required. The agricultural competitions were conducted by them.

The annual training classes and conferences were held during the last week of August at Galle, Matara, and Kalutara—the classes which were conducted by Muhandiram N. Wickramaratne were well attended.

Financial Support from Government.—The following three societies received loans from Government during the year:—

East Giruwa pattu	...	Rs. 2,000	} ... For helping cotton cultivation.
Magam pattu	...	„ 1,000	
Kaluwamodera	...	„ 1,000	

A sum of Rs. 9,340 on account of loans granted in previous years is outstanding against 15 societies.

Distribution of Manure.—During the year the supply of manure has decreased by 50 per cent., as against the previous year. The total quantity bought by 10 societies was 23 tons and 16 cwts., of a value of Rs. 3,189.61. This decrease is due to the fact that applications for manure were allowed only in the case of societies who had shown businesslike methods. With the exception of the Urubokka Society, practically all the long overdue bills have now been settled.

Agricultural Competitions.—Several agricultural competitions in paddy and vegetables (and restricted to members of co-operative societies) were held during the year, and members of the following societies competed:—Galle District: Ganegama, Telikada, Udugama, Unanwitiya, Elpitiya, Wellaboda Pattu, Akmimana, Talpe Pattu, and Akuretiya; 95 entries. Matara District: Gangaboda Pattu, Wellaboda Pattu, Four Gravets, Madihe, Kanda-boda, Weligam Korale, Kamburugamuwa, Thelijawila, and Deniyaya; 70 entries. Kalutara District confined only to Rayigam Korale—Adikari Pattu, Kumbukke Palata, Kumbukke Palata, Alutugama, Bellapitiya, Haltota, Yalegala, Handapangoda, and Kalupahana; 80 entries.

Sums amounting to Rs. 400, Rs. 630, and Rs. 400 in the three districts, respectively, were distributed as awards.

*North-Western Province.**(Forming North-Western Division.)*

Mr. G. E. Jayatilaka Hulugalle, Assistant Registrar, North-Western Division, reports as follows:—

The societies in this division have made considerable progress in their work. Backward societies have been improved by frequent inspection and supervision.

The following new societies were registered during the year:—Mahagalboda Dakunu Korale, Bogamuwa, Tiragandahaya Basnahira Korale, Pilessa, Kumbukwewa, Watareka, Meetenwela, Polgahawela, Kiniyama Korale, Kurunegala Young Men's Buddhist Association, Horombawa, and Bingiriya Palata. Of these, 11 were in the Kurunegala District and 1 in the Chilaw District. The total number of registered societies in the division is 26. No societies were cancelled.

The following statement shows the membership and financial position of societies taken collectively under each district:—

Name of District.	No. of Societies.	No. of Members.	Paid-up Capital.	Loans Granted.	Loans Recovered.	Loans Outstanding.	Deposits.
			Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Kurunegala	19	1,314	13,427 44	15,270 0	5,648 0	14,087 10	272 50
Chilaw	5	516	5,946 0	8,364 98	3,476 93	6,353 92	43 38
Puttalam	2	600	1,501 60	3,655 0	1,571 0	2,084 0	—
Total	26	2,430	20,875 4	27,289 98	10,695 93	22,525 2	315 88
Average per society	...	98.4	802.88	1,049.61	411.38	866.34	12.14

Training classes were held at Kurunegala on August 10 and 11. The Government Agent, North-Western Province, opened the classes, and the Ratemahatmayas, Hiriyala hatpattu, Demala hatpattu, and Mr. A. P. Goonatilake presided at the sessions. Over 300 office bearers and members of the societies and members of the general public interested in the Co-operative Movement in the division attended, and most of the office bearers were benefitted by the instructions received at these classes. The following Government loans were given to societies during the year from—(1) Local Loans and Development Fund: Rs. 500 to Mahagalboda Megoda Dakunu Korale Society, Rs. 1,500 to Wariyapola Society; and (2) Rice Profits Fund, Kurunegala Kachcheri: Rs. 500 to Pussella Sucharithawardena Society and Rs. 250 Tiragandahaya Korale East (Bogamuwa).

Distribution of Manure.—Twelve tons 16 cwt. 3 qr. and 11 lb. of manure and 14 cwt. of barbed wire were supplied to the societies during the year as follows:—

					Tons.	Cwt.	qr.	lb.
Nainamadama	...	...	...	...	8	0	2	19
Pussella	...	...	...	...	1	0	0	0
Pilessa	...	...	...	...	0	8	0	0
Marawila	...	...	...	...	3	8	0	20
					12	16	3	11

The settlement of manure bills by certain societies was irregular and considerable amount of pressure was brought to bear on such societies to get their overdue accounts settled.

Agricultural Competitions.—Two agricultural competitions in paddy and vegetable garden cultivation were held by the Hiripitiya and Mahagalboda Megoda Dakunu korale, respectively. These were confined to the members of the societies and the awards were subscribed by the members themselves and the general public.

Annual Inspection.—The Secretary, Board of Control, visited all the societies and carried out the annual audit of accounts. The Divisional Agricultural Officer and the Agricultural Instructors of the division in addition to forming new societies attended monthly meetings of registered societies and helped the office bearers in the management of the societies.

Northern Province and Trincomalee District.

(Forming the Northern Division.)

Mr. W. P. A. Cooke, Assistant Registrar, Northern Division, sends the following report regarding the position of his division during the year, viz:—

The number of societies in the division at the end of the year 1925 was 38, excluding 1 society that was cancelled, viz., "The Trincomalee Public Service Supply Society." But it includes 11 new societies that were started, viz., Mandativu, Iranamadu, Vavuniya South (Tamil Division), Kaithaddy, Kodikamam, Suthumalai, Sandilippay, Sorampattu-Masar, Neervalu, Chunakam, and the Jaffna Church of England. The societies in the division are distributed as follows:—

	Societies.		Societies.
Jaffna District	... 28	Vavuniya	... 3
Mannar District	... 5	Trincomalee	... 1
Mullaitivu	... 1		

These societies could be classed under the following heads:—

	Societies.		Societies.
Agricultural	... 29	Societies for teachers	... 3
Industrial	... 2	Fishing	... 3
Seed supply	... 1		

The Talaimannar, Jaffna Industrial, Puloli, and Pungudutivu societies have done little work during the year, but special mention should be made of the Tholpuram-Moolai, Pandaterippu, Karaveddi, Tellipalai, Kopay, American Mission Agents', Valvettiturai, and Jaffna Wesleyan Mission Agents' Societies which have done particularly good work during the year under review. The Iranamadu, Kaitaddy, Kodikamam, Suthumalai, Sandilippay, Sorampattu-Masar, and Neervalu societies have not started work.

The increase in the number of societies in the division clearly shows a keen desire on the part of the people for co-operative societies, and it may be said that the movement is making headway into the villages.

Government loans totalling Rs. 14,000 was granted to nine societies in this division, namely:—

	Rs.		Rs.
Kopay	... 1,500	Vavuniya Church Mission	... 500
Tirunelvely	... 1,000	Tellipalai	... 1,000
Valvettiturai	... 2,000	Mullaitivu	... 1,000
Karayoor Carmel	... 2,000	Pesalai	... 2,000
Jaffna Wesleyan Mission	... 3,000		

And the applications for Government loans from Tirunelvely (2nd), Mandativu, Talaimannar, and Vavuniya South (Sinhalese Division) Societies are receiving consideration. The following is a summary of particulars relating to societies in this division at the end of the year under review:—

Number of members, 3,502; paid-up capital, Rs. 61,075.90; loans granted, Rs. 100,661.97; loans recovered, Rs. 80,465.01, loans outstanding, Rs. 118,827.49; amount of deposits, Rs. 17,278.28.

The Poonakari Grain Bank has 69 members and particulars of its work are as follows:—

			Bushels.		Measures.
Capital	...	...	569	...	7½
Loans given	...	...	502	...	7½
Loans recovered	...	...	497	...	6½
Loans outstanding	...	...	753	...	1½

At the conference that preceded the training classes for office bearers of Co-operative Societies for this division held on the September 14, 1925, it was decided to start a central society and to organize an agricultural conference for members of Co-operative Societies of this division. Arrangements are at hand to organize the central society and hold the conference in May, 1926.

Central Division.

The following statement submitted by Mr. S. B. Yatawara, Inspector, Central Division, shows the position of the societies in this division which are now supervised by the Head Office:—

District.	No. of Societies.	No. of Members.	Paid-up Capital.	Loans Granted.	Loans Recovered.	Loans Outstanding.	Deposits.
			Rs. c.	Rs. c.	Rs. c.	Rs. c.	Rs. c.
Kandy	... 28	... 2,168	... 27,487 40	... 22,615 74	... 12,653 14	... 22,680 93	... 1,329 60
Matale	... 7	... 596	... 3,148 0	... 323 0	... 1,027 0	... 2,008 66	... 57 95
Nuwara Eliya	... 5	... 1,062	... 4,238 8	... 4,012 0	... 2,283 50	... 4,081 70	... 23 65
Kegalla	... 11	... 1,522	... 7,830 85	... 2,450 0	... 1,283 94	... 3,367 80	... 3,538 6

The following new societies were registered during the year:—

<i>Kandy.</i>	<i>Matale.</i>	<i>Nuwara Eliya.</i>
(1) Yatigammana	(1) Udugoda-Udasiya pattu	(1) Walapane Yaipalata
(2) Palispattu korale	(2) Wagapanaha-Udasiya pattu	
(3) Mediwaka		

There were 34 societies in the Central Province at the end of the last year. Five societies have been registered during the year under review, making a total of 39 societies. The progress of the new societies is satisfactory, but older societies are slack. The societies in the Nuwara Eliya District are continuing to do good work while societies in Matale have been backwork. It has been decided to cancel the registration of the Kandyan Association Co-operative Society and the Uda Dumbara Society. The affairs of the Nagolla-Hulangamuwa Society are still in the hands of the liquidator.

Colombo District (Western Province).

Three new societies have been registered during the year under review, and one of these is the Colombo District Co-operative Union which was organized under the presidency of the Hon. Mr. D. S. Senanayaka, M.L.C. This Union is the first Co-operative Union registered under the Ordinance, and this is the first step taken by co-operators to organize higher co-operation. The total number of societies in the district was 25. The new societies have made striking progress. The Gangaboda Pattu of Siyane Korale East Society, the Kosgama-Kaluaggala Society, and the Jayawardenapura-Kotte Society have been dormant and will have to be closed. The Buddhist English Schools Society has shown no improvement during the year. The Dompe Peruwa Society and the Seeduwa Society which were revived lately are doing good work.

Batticaloa District (Eastern Province).

This district has continued its progressive policy in the development of the co-operative movement, and twenty new societies have been registered during the year under review. The total number of societies at the end of the year was 51. An unsatisfactory feature of the work of the societies is the number and amount of overdue loans, and action is being taken to recover these. The Government Agent is giving full support to the spread of the movement in the district. Several societies received loans from the Local Loans and Development Fund during the year.

North-Central Province.

This Province has increased the number of societies by the registration of four new societies during the year under review, and the total number of societies at the end of the year was 12. Some of the old societies were revived and new office bearers were elected and the new societies have begun their work well. There is a keen desire on the part of the villagers for co-operative societies. Mr. R. W. W. Italwetunuwewa, an officer of the Anuradhapura Kachcheri, has been appointed to visit the societies and supervise their work. This has resulted in the increase of the number of societies and the improvement in their working. These societies, with financial assistance from Government, have helped the members to redeem their outside debts.

Province of Sabaragamuwa.

This Province did not show an increase of societies during the year, and the number of societies remain at 18. The new societies formed in Beligal korale in Kegalla District have collected share money and done some business, but the old societies, *i.e.*, the Mawata pattu, Kanduaaha pattu, and Galboda and Kinigoda korales have been dormant, and action is being taken to cancel the registration and bring them under liquidation. The Balangoda and Godakawala Societies maintain their progress. The Ratnapura Society was revived during the year.

GENERAL.

Supervision and Inspection.

Increased attention has been given to the supervision of societies and their inspection. The Agricultural Instructors in the Southern and North-Western Divisions have helped in the supervision of societies in their respective divisions. The Batticaloa Societies are supervised by the Government Agent, Eastern Province. The Registrar visited societies in the Southern and Northern Divisions. The Secretary, Board of Control, inspected a number of societies in the Batticaloa District, in addition to the supervision of societies worked from Head Office.

FINANCIAL ASSISTANCE FROM GOVERNMENT.

Thirty-five societies have been assisted with loans amounting to Rs. 61,500 during the year under review. This is the largest amount lent to these societies by Government in any one year since the establishment of co-operative societies. Instalments due from 39 societies amounting to Rs. 5,935.84 have been paid back to Government; an increased demand for loans from Government was evident during the year. An amount of Rs. 108,900.96 from 74 societies was outstanding on account of Government loans at the end of the year. The Batticaloa Paddy Bank lent Rs. 93,574.73 to the societies in the district during the year.

SUPPLY OF MANURES AND IMPLEMENTS.

There appeared a set back in the supply of manures during the year under review. The high price of manures and the delay in settlement of accounts by societies have been responsible for this fall in the supply of manures. The total quantity supplied through the Registrar was 67 tons 3 cwt. and 3 lb. to the gross value of Rs. 9,326.87. Several societies have obtained manures direct from manure firms for cash payment. The supply of barbed wire and mamotties has slightly increased.

SUPPLY OF PROVISIONS AND BOOKS.

The Hambantota Government Servants' Co-operative Society and the Department of Agriculture Society have done another year's successful work in this direction. The Kandy Tamils Supply Society has started work in a small scale. The Trincomalee Public Service Society did not gain the popularity of the members and has been liquidated. The supply of books and stationery by the Galle Christian Society was not successful, and the Colombo Buddhist Schools Society has ceased to supply books.

SUPPLY OF PADDY.

The Poonakari Paddy Bank and the Kevitiyagala Paddy Sub-Committee did good work in the supply of paddy during the year. The Ratnapura Society obtained 100 bushels of selected seed paddy for its members through the assistance given by the President. The Elpitiya Society is also dealing in paddy. The proposal of the Batticaloa Societies to store and sell the paddy of their members did not come to pass.

FOOD PRODUCTION.

The paddy and vegetable competitions organized in the Southern and North-Western Divisions have encouraged the production of food by the members of societies. The Batticaloa and the Anuradhapura Societies are all devoting their attention to food production. The Heneratgoda Society organized another competition for garden crops. The paddy competitions for the two Brito-Babapulle Gold Medals in the Batticaloa District have been successful, and a member each of the Akkaraipattu and Kaluthavalai Societies, respectively, has been awarded the prizes. The President of the Pussella Society continues to take special interest in this direction, and his example is followed by others in the locality. Several societies were supplied with seeds of vegetables and curry stuffs free of cost by the Department.

OTHER ACTIVITIES.

Weaving, cottage industries, and social service have all received support during the year. The Henaratgoda Society was successful in its attempt to start an industrial school in the neighbourhood by representing the necessity of such an institution to the Director of Education. The Kandy Rickshawmen's Society issued one more rickshaw this year.

CO-OPERATIVE ORDINANCE, RULES AND BY-LAWS.

Rule No. 8 of the Ordinance was further amended during the year under review, with a view to granting further facilities for borrowing by societies, with limited liability. Model by-laws for Central Banks, Societies with limited liability and Unions were printed during the year. These are available for distribution.

DISPUTES.

No serious disputes occurred during the year. The Registrar settled some minor disputes which existed between some members of the Kotaligoda Society in the Kandy District. The Secretary of the Witiyala Society disappeared from the village and the matter is under investigation. A shortage of funds in the society has resulted.

LIQUIDATION.

The Jaffna Central, Columbuturai-Poonakari, and the Nagolla-Hulangamuwa Societies are still in the hands of the liquidators. The affairs *re* the liquidation of the Sammanturai Society were completed during the year. A liquidator has been appointed to liquidate the following societies after the cancellation of their registration:—The Kandyan Association Society, the Mawata Pattu Society, the Kandua Pattu Society, the Galboda Kinigoda Korales Society, and the Uda Dumbara Society. The matter of appointment of liquidators and the rules for their guidance are receiving the consideration of the Registrar.

CO-OPERATIVE EDUCATION, CONFERENCES, &c.

The annual training classes for the training of honorary secretaries, treasurers, and other office bearers of societies were continued this year, and the classes were held at Colombo, Kalutara, Galle, Matara, and Jaffna. These classes were preceded by conferences of representatives of co-operative societies at each centre. These were attended by the general public as well. These classes are getting popular year by year as a means of educating the co-operative workers. Lectures on co-operation were given by the Secretary, Board of Control, to the students of the School of Agriculture, Peradeniya, as usual. The vernacular magazines containing co-operative literature have been issued free to all societies. Leaflets have been distributed and the Ceylon Co-operative Manual published within the year has been supplied free to all societies.

N. WICKRAMARATNE,
Secretary, Board of Control, Co-operative Societies.

IX.—REPORT ON THE WORK OF THE PUBLICATION DEPOT AND CENTRAL SEED STORE.

THE activities of this division are increasing. Inquiries are being received for innumerable varieties of seeds—the demands for seeds of green manure crops being abnormal. A greater interest in the trials of various shade, cover and leguminous crops seems to have arisen by the notice given them in articles published in the "Tropical Agriculturist" from time to time. There is a steadily increasing demand for vegetable (51 varieties) and flower (25 varieties) seeds from estates as well as from small cultivators.

Supplies of different varieties were imported from Bangalore, Bengal, Buitenzorg, Calcutta, Cape Town, Coimbatore, England, France, Guntur, Java, Kankè, Koilpathi, Madras, Medan, Mooply, Nasik, Nepal, Nilgiris, Ohio, Pahang, Philadelphia, Poerwarkata, Poona, Punalur, Salem, Sattur, Tanjore District, Tji-Tandoh, Victoria, Yokohama, &c., and different districts in the Colony. A constant fresh supply is maintained by importing requirements at fixed intervals throughout the year.

Applications were received from, and supplies dispatched to, the following places abroad:—

Assam, Australia, Baksara, Bengal, Bombay, Calcutta, Cawnpore, Cocanada, Coimbatore, Congo Belge, East Africa, Ganhati, Goa, Guntur, Honavar, Japan, Java, Kadur District, Kuala Lumpur, Malabar, Malaya, Moulmein, Nilgiris, Punalur, Ramnad District, Rangoon, Sawant-wadi, Scotland, Seychelles, Siam, Singapore, South Africa, Travancore, Twante, Washington, &c.; while locally every part of the Colony has been served.

The demand for seed paddy has been very limited, no doubt due to the ample supplies in hand of cultivators and field-owners to meet their requirements. There have been inquiries for pure-line breeds of paddy raised by the Economic Botanist who directly dealt with such applications.

Outside Hambantota area, where cotton cultivation is being done on a settled programme, there was a fair demand in different districts for seeds for trial on a limited scale. The quantity distributed through the Southern Division in Hambantota District is not included in the distribution table below.

Adlay and chilli have been in greater demand, while nearly 1,000 packets of curry stuffs were distributed. Small supplies of arecanut, cacao pods, cardamom, gingelly, and vanilla cuttings were also supplied. The demand for green manure and cover crops was greater than usual as much as 6,954 lb. being dealt with; garlic, ginger, turmeric, and tamarind also were in fair demand.

Inquiries for seeds and plants of rubber and tea were numerous and applicants were assisted in getting their supplies.

Following is a statement of distribution:—

	Bushels.	Pounds.	Packets.	Number.
Adlay	7	25½	103	—
Bulbs, dahlia, &c.	—	—	—	30
Chilli	—	107½	773	—
Coconuts	—	—	—	200
Coffee	—	6½	—	—
Cotton	—	3,420	—	—
Curry stuffs	—	4½	962	—
Flower seeds	—	—	3,946	—
Garlic	—	138	—	—
Ginger	—	358½	—	—
Grafted plants	—	—	—	430
Grass seed and cuttings	—	5½	—	74
Green manure seeds	—	6,954	—	—
Groundnuts	—	242½	—	—
Jak seeds	—	—	—	518
Kapok	—	64½	—	—
Madras thorn	—	105½	—	—
Maize, sorghum, &c.	—	98½	—	—
Paddy	32	—	—	—
Papaw	—	9½	—	—
Soy bean	7	135½	—	—
Suckers, pine and plantain	—	—	—	66
Tamarind	—	—	—	2,600
Tea seeds	—	81	—	—
Timber and shade tree seeds	—	68	—	193
Tobacco	—	1½	—	—
Turmeric	—	395½	—	—
Vegetable seeds	—	29½	21,420	—
Yams, artichokes, &c.	—	79½	—	—
	46	12,830½	27,204	4,111

Many have taken an interest in obtaining grafted fruit plants. During the year 430 plants were distributed among 65 applicants—the number including the following varieties:—

Fig, grape (2 varieties), guava (6 varieties), lime, mango (37 varieties), ziziphus jujuba (5 varieties), litchie (6 varieties), orange (4 varieties), pomegranate (2 varieties), rose apple, star apple (3 varieties), aegle marmelos (2 varieties), pomelo (2 varieties), sapodilla (2 varieties), lemon (4 varieties.)

The new seed tester has greatly facilitated work, as all varieties are subjected to germination tests before distribution. The leaflet on sowing and preserving seeds, issued with each parcel, is serving a very useful purpose and is in great demand.

PUBLICATIONS.

The numbers of subscribers to both English and vernacular publications remain about the same as last year.

The rights for advertising in the "Tropical Agriculturist" have been sold to the Ceylon Advertising and General Publicity Agency of 34, Chatham street, Colombo.

The Annals of the Royal Botanic Gardens published at present as a section of the Ceylon Journal of Science is now available at a published price per volume instead of by annual subscription. The following is a list of publications:—

Title.	Annual Subscription.		Single Copy.	
	Local. Rs. c.	Foreign. Rs. c.	Local. Rs. c.	Foreign. Rs. c.
"Tropical Agriculturist" ...	10 0	15 0	1 0	1 25
Annals (per volume) ...	8 0	10 0	3 0	3 0
Bulletins ...	1 0	2 50	0 15	0 40
Bulletins from No. 73 onwards ...	—	—	0 25	0 40
Circulars (old issues) ...	—	—	0 15	0 40
"Govikam Sangarawa" (Sinhalese) ...	0 50	1 0	0 6	0 15
"Kamat Tholil Velakkam" (Tamil) ...	0 50	1 0	0 6	0 15

Special Centenary Edition of the Royal Botanic Gardens, Peradeniya, bound in Morocco leather, Rs. 5 each.

FINANCIAL.

During the financial year (1924-25) under review the total receipts were Rs. 31,439.90 from both publications and seeds—made up as under:—

			Rs. c.
Publications ...	...	...	18,126 97
Seeds and plants ...	...	...	10,881 95
Free distribution (value)	...	...	2,430 98
			13,312 93
			31,439 90

J. S. DE SILVA,

Peradeniya, February 1, 1926.

Manager, Publication Dépôt and Central Seed Store.

X.—REPORT OF THE DIVISION OF SYSTEMATIC BOTANY HERBARIUM.

BOTANICAL specimens sent in numbered 310, of which 43 were Leguminosae, 20 Orchids. Forty-six were sent to Kew and 3 to Calcutta for determination. 110 specimens were dried.

Specimens of seeds were collected and sent abroad. Visits have been made by the staff to Galle, Matara, Nuwara Eliya, Bibile (3), Bintenne, Kulugammana (2), Ratnapura, Lunumadalawa, Kekirawa, Hakgala, Trincomalee, Morawak korale, Dolosbage, and Henaratgoda.

The following species was added to the Flora:—*Arundinella tenella* (Gramineae), *Mariscus Thwaitesii* (Cyperaceae), *Hunteria Legocii* (Apocynaceae) and work referring to the Apocynaceae completed.

MUSEUM.

Renewals or additions to exhibits, 2 bottles palm oil, sample of chewing tobacco, 64 samples of paddy, caju seeds (from the Imperial Institute), Burmese cigars (presented by two Burmese visitors), 28 specimens of ropes and fibres, 5 models of pods of varieties of cacao, 5 blocks of rubber cured by Wickhams' hard cure method, 7 varieties of bamboo, 15 medicinal specimens.

Six show cases were repainted and rearranged, 293 exhibits were relabelled. There were 867 visitors during the year.

A. H. G. ALSTON,
Systematic Botanist.

XI.—REPORT OF THE WORK OF BOTANIC GARDENS.

ROYAL BOTANIC GARDENS, PERADENIYA.

MANY improvements, in addition to routine, have been undertaken throughout the year. General cultural operations in all sections have been maintained, and in most cases improved, especially in the collections embodied in the *Arboretum*, *Palmetum*, and *Pinetum*. Special efforts have been devoted during the north-east monsoon to the improvement of the main drive borders, the gardens frontage, and the fernery.

ARBORETUM.

The six sections A to F of the Arboretum, comprising approximately 55 acres under systematic arrangement of planting, has received more attention than can normally be allowed this area, the large clump of screw pine (*Pandanus labyrinthus* Kurz) in section B having been cut down, the roots eradicated, and the surface levelled, thus allowing room for extension of the order Meliaceae. The felling of many old and superfluous trees of Mango, Ficus, *Inga Saman*, Sapu, &c., in section C has allowed a badly needed extension of the order Dipterocarpeae, adjoining the orders Anonaceae and Guttiferae, the old restricted area being totally inadequate for such large specimens as are included in this group. The planting on much more spacious lines of the new clearing has proceeded as far as stock allows, the intention being to replace the whole of the representatives of this order in the new clearing in due course.

New plants put out in their respective orders during the year include *Corynocarpus laevigata* Forst. (Anacardiaceae) *Cassia javanica* L., *Colvillea racemosa* Boj. *Millettia pendula* Benth. (Leguminosae) *Lecythis ollaria* L. (Myrtaceae) *Hernandia sonora* L. (Laurineae) and *Bischoffia javanica* Bl. (Euphorbiaceae).

PALMETUM.

The palm section of the South Garden planted in 1915 and added to annually now constitute an important botanical feature of these gardens. The original planting of species in duplicate now results in overcrowding and steps are being taken to remove the duplicates of those species not of a dioecious character. Of the new plants put out during the year the following are the most important, *Copernicia cerifera* Mart. *Erythrea edulis* S. Watts. *Jubaea spectabilis* H. B. & K. *Korthalsia rigida* Bl. *Mauritia flexuosa* L.f. *Orania arvensis* Becc. *Pholidocarpus mucronata* Becc. and *Serenoa serrulata* Hook.

PINETUM.

The Pinetum, extended considerably and planted in 1921, continues to make good progress as regards both extension of number of species and in their excellent growth and shape, the retention of all their lower branches being a marked feature hitherto absent from Conifers at this elevation. The old tree of *Podocarpus cupressina* Br., a most handsome species, bore fertile seed for the first time in 1923, and seedlings raised have been planted out during the past year.

Cupressus procera Hochst. of Tropical Africa, raised from seed received from E. H. Wilson, Arnold Arboretum, U.S.A., in 1922, has also been planted here, is growing well, and is forming a shapely plant. *Cupressus sempervirens* L. (*C. fastigiata* D.C.) the fastigiate or upright Cyprus of South Europe, and which is hardy in the South of England, is a further addition to the collection, plants having been raised from seed received in 1922 from Malta. The latter has already obtained a height of 6 ft. and already shows the character of the species, *i.e.*, a tall tapering tree.

FLORICULTURE.

The Flower Garden section has been well maintained and a fair show of colour has invariably been attained through all seasons of the year. Varieties of Salvias, a selection of the brighter Cannas, with Poinsettia, Ixora, Mussaenda, Pentas, and ornamental foliage beds and borders have been the main features throughout. A judicious selection of annuals have recently been tried and have proved most successful, particularly the Zinnia African Marigold (lemon), Chinese Aster, and the improved French Double Balsam. Many improvements are, however, attainable here and are anticipated during the next season, the plants on the present pergolas supporting the more showy climbers, being much too crowded to grow and flower to advantage. With the acquisition of a motor mower and a liberal amount of hose piping, expected early in the new year, it is anticipated that the labour allotted this section will become available for more intensive operations of a cultural nature.

The Main drive borders having become a mass of old and overgrown specimens, due to constant bi-monthly prunings, &c., called for drastic treatment, and this was undertaken with the rains of October. All old and unshapely shrubs, &c., were removed, the overhead shade from the large trees considerably reduced, and the borders deeply trenched to eliminate all roots of surrounding and overhead trees. A heavy manuring of cattle manure and leafmould was given the borders, and plantings of the more showy perennials than had hitherto been used here were made. The beds were, in addition to the Malpighia edging, bordered with a row of the red Lily (*Amaryllis* sp.) this species having been found to resist snail attacks better than the previously established white lily (*Hyline gardneriana*) along these borders.

The tiles defining border and Main drive have also been repaired, and all corner stones shaped and re-erected. A new type of wooden label, suitable for perennial plant purposes, has been instituted, and labelling is proceeding.

To obtain the best from these improvements and to maintain them, a liberal water supply is necessary, and for that purpose the main 4-inch water pipe running along Main drive has been tapped and five hydrants put in at requisite distances. 160 ft. of 1-inch hose piping has been indented for and is expected shortly, and it is anticipated the improvements made here up to the present will be well maintained thereby.

The Monument drive beds have received attention and all the miscellaneous collection of stunted and worn out shrubs there previously have been taken out. The beds were excavated to a depth of 3½ ft. and good soil and manure added, the 21 beds being subsequently planted up with Ixora and Petrea alternately.

The Lake drive border has also been overhauled and it is intended to proceed on similar lines with the borders in Liana drive with the advent of the south-west monsoon, the present dry conditions having stopped operations of this nature for the season.

ROADS AND PATHS.

With the vast increase of motor traffic in the gardens, the question of the maintenance of the Main drives is an increasing problem and calls for urgent consideration. There are over 4 miles of metalled and gravelled drives, and over 1 mile of smaller gravelled paths within the gardens to be maintained, and the labour involved and materials needed make a heavy drain on the gardens resources. The labour that can annually be apportioned to roads and paths is limited, and the available materials more so, as the gravel pit is rapidly being depleted of gravel. Metal is even more scarce owing to the fact that all the outer sections of the gardens having, during recent years, gradually been brought under cultivation. Repairs were made to the Main Central drive and portions of the River drive, together with a complete relaying of the fernery paths during the early months of the year. The majority of the drives, however, need a deal more labour spent on them than is at present possible if these are to be maintained in the condition they should be.

IMPROVEMENTS.

Improvements in the gardens frontage have been undertaken from July onward by reduction of the mound fronting the road. The old Panax hedge along the entrance from Chief Clerk's gate to main gate has been uprooted and a Madras thorn hedge from seed has been substituted after the necessary preparations had been made.

The row of *Ficus* flanking the entrance to the gardens and planted here in 1914 had become overcrowded, and every alternate tree has therefore been removed. This now leaves 6 trees in the row. The thinning is a final one.

The roadside *Inga Saman* trees along main road frontage have been trimmed back to allow more light and air to the row of *Amherstia* trees on the one side and to the recently planted Madras thorn hedge on the other side of main gate.

On the completion of the new drain by the Public Works Department at cooly lines, the whole of the surroundings of the cooly lines were taken in hand, all surplus soil from the large drain was carted to the low lying ground near bamboo clump, the steep bank dividing lines and sub-staff bungalows was shaped and the lower slopes also shaped up. The larger banks were planted with fodder and the smaller banks, below cooly lines, turfed over. The approach road was widened and new hedges erected and the whole of the line compound surface was gravelled also.

With the intention of bringing the greater part of the grass areas in the gardens into a condition for eventual regular mowing by machine, a commencement has been made in levelling and smoothing out of the surface of different sections. The strip along the road in front of new hedge and the strip behind this hedge and in front of the row of *Ficus* trees has been prepared latterly. The Spice grove, each side of Palmyra avenue, and section F off Great Circle has also been attended to. Attention has also latterly been devoted to the Great Circle. By means of close scything, the turf clumps have been strengthened and are thickening, and some of the depressions have been filled in.

GENERAL.

The surroundings of the Ferry harbour have been further improved by the partial levelling of section A and the planting of new varieties of *Bougainvillea* along the river side at ferry path, and along the further end of Central drive in the Arboretum. The latter have flowered exceedingly well and tend to brighter up this end of the gardens.

The absence of an incinerator has for some time been a drawback to the general tidiness of the gardens. This has now been remedied and an incinerator built on commodious lines, 6 ft. in diameter and 12 ft. high, has been erected in the cattle shed area.

Periodical clearings of the South garden pond have been made, the Lotus Lily (*Nelumbium speciosum*) having become firmly established here, and rampart. Twenty Gourami were received from the Director of the Colombo Museum on June 20, and put into the pond, and all are doing well.

Four double coconuts, (*Lodoicea seychellarum*) received from the Henaratgoda parent tree in May were planted out in Avenue (2) and in Palmetum (2).

The 8 talipots in the South garden old avenue which flowered in 1922 and fruited in 1924 were removed, seed having been widely distributed to other Botanic Gardens, &c. There remains now only 5 isolated trees of varying age.

The rubber seed season was a prolific one both in supply and demand, the 1925 crop showing some 617,400 seed collected and sold, realizing Rs. 3,086, against a normal season's average of Rs. 600. The dry weather conditions of July-August, however, affected the quality of the seed, though not the yield, adversely.

Steps are being taken to improve the Orchid House and contents, and a covered area is very necessary for the proper cultivation of these plants. The collections have been considerably added to lately by importations from Calcutta, Rangoon, and Java, and by collections of Ceylon species also, including the handsome *Dendrobium MacArthuriae* and the rare *Phreatia elegans*.

A small tree of the handsome Burma flowering tree, *Amherstia nobilis* was planted by H. M. the King of Belgium on October 25, to commemorate the visit of the King and Queen of Belgium to these Gardens.

MISCELLANEOUS.

Davies' Tree.—The Katugastota site known as Davies' Tree site has received further attention in the erection of a live hedge around the boundaries. The young plants of "Na" tree (*Mesua ferrea*) put in last year did not thrive, having suffered from lack of water and from cattle trespass. With the erection of the live fence, "Na" seed was sown in situ and these appear more likely to withstand the conditions here.

Alphabetical List.—An alphabetical list of plants growing in the Royal Botanic Gardens, Peradeniya, has been prepared and is in the Press. The list supersedes Trimen's Hortus Zeylanicus, published in 1888, and all introductions established here since that date have been included. The publication is a long felt want and will be of invaluable assistance to the gardens.

Visitors.—The number of visitors, mostly from abroad, who signed the visitors book, kept at the entrance Lodge, was 2,805.

SALE OF PLANTS, SEEDS, &c.

The amount realized and credited to revenue for sale of plants and seeds from Peradeniya for the calendar year is Rs. 6,622.56, including sales of rubber seed from Henaratgoda to the value of Rs. 1,936.25. This shows a remarkable increase compared to last year when Rs. 2,693.44 was realized, including Rs. 570 from sale of rubber seed from Henaratgoda.

Value of exchange and of free issues to Government quarters, &c., amounted to Rs. 2,428.60.

Value of plants, seed, and cuttings issued to School Gardens from Peradeniya amounted to Rs. 635.36.

METEOROLOGICAL.

The following is the rainfall for the year, showing the average per month for the past 42 years. The highest rainfall in any 24 hours was 3.65 on November 8 and 9:—

	Rainfall for 1925.		Average from 1884 to 1925, inclusive.	
	Inches.	Days.	Inches.	Days.
January ...	7.96	14	3.96	6
February ...	3.08	7	1.67	3
March ...	7.01	15	4.77	7
April ...	5.26	10	8.18	12
May ...	10.25	19	5.78	11
June ...	7.53	18	11.11	17
July ...	1.75	9	8.30	18
August ...	6.89	17	6.27	14
September ...	7.83	9	7.08	15
October ...	11.96	23	13.57	18
November ...	15.63	19	10.43	16
December ...	7.70	14	8.51	12
	92.85	174	89.68	149

HENARATGODA GARDEN.

The following extracts are from the report of the Assistant Curator, Mr. K. J. Alexander Sylva, under whose management the gardens have improved immensely:—

Drive to the Office.—A semi-circular road beginning from the Main Central drive linking up the present office and terminating at the extreme end of the main borders has been opened. The cross road from the East Circular drive to the West Circular drive had to be straightened. This necessitated the closing up of the old ditch which ran across the garden. A sound drainage system has been provided for the new roads with 4 cement culverts.

Spice Collection.—The block of land adjoining the Flower Garden and nurseries has been chosen for this and a selection of important species has been planted.

Fruit Section.—All mounds and depressions have been levelled and the area brought to a smooth surface. Several new additions were made and all the plants in the collection were given a liberal application of manure.

Oil Yielding Section.—The section immediately in front of the office and within the Semi-circular drive has been selected and planted with the more important oil yielding plants, viz., *Aleurites Fordii*, *Aleurites montana*, *Santalum album*, *Calophyllum inophyllum*, *Azadirachta indica*, &c. The three plants of *Aleurites trisperma* from Philippine Islands planted in 1919 have made good progress and the average height is 22 ft. The 2 plants of *Taraktogenos Kurzii* of Burma and the reputed true source of Chaulmoogra oil, planted in 1922, have become well established and are over 5 ft. in height.

Bamboo Collections.—A beginning has been made to establish a fair collection of bamboos in the gardens, and the following have been planted out, *Bambusa polymorpha*, *Dendrocalamus membranaceus*, *Dendrocalamus Hamiltoni*, *Dendrocalamus longispatha*, and *Cephalostachyum pergracile*.

Economic Section.—The upper portion of the Great Lawn where several other plants and trees of economic value exist has been improved.

Flower Garden.—Several isolated beds in this section have been closed and a few good beds for perennials or specimen plants have been opened up. The following have been introduced and planted on the outskirts of the Flower Garden and have become well established, *Congea tomentosa*, *Tacsonia Van Volxemii*, *Bougainvillea formosa*, *Bougainvillea sanderiana*, *Lonicera caprifolia*, *Mussaenda erythrophylla*, *Clerodendron macrosiphon*, *Tristellateia australasica*. A row of 16 different sorts of Hibiscus have been planted at the back of the Flower Garden with a view to form a suitable back ground in due course.

Labelling.—The identifying of plants has been systematically carried out. Practically all the important trees and shrubs have been labelled. The Fernery, Rose Garden, and Green-house plants have been provided with zinc or wooden labels.

RAINFALL.

The longest drought was from August 2 to September 24, with light intermittent showers on 4 days, amounting to 1.39 inches, and the longest wet period was from May 6 to June 29, amounting to 28.51 inches for 45 days.

Months.	1925.		Inches.	Days.
January ...	...	...	6.68	9
February ...	...	...	6.22	5
March ...	...	...	11.92	12
April ...	...	...	9.48	9
May ...	...	...	10.51	22
June ...	...	...	18.00	23
July ...	...	...	3.13	8
August ...	...	...	2.73	5
September ...	...	...	10.72	5
October ...	...	...	16.43	24
November ...	...	...	22.70	22
December ...	...	...	4.14	12
			122.66	156

SALES OF PLANTS, SEEDS, &C.

	Rs.	c.
Amount credited to revenue for sale of plants and seeds, &c.	...	241 85
Free issues to Government Institution, &c.	...	209 80
Total	...	451 65

THE GOVERNOR'S AND COLONIAL SECRETARY'S GARDENS.

QUEEN'S COTTAGE, NUWARA ELIYA.

The Hakgala Curator reports :—

Many improvements have been carried out during the year, especially to the flower garden and grounds in front of the house.

The chief work during the last four months of the year has been in connection with the sloping of the bank along the main road so that a Cupressus hedge can be planted along this bank which extends from the lodge to the Ramboda gate. Plants of Cupressus for the purpose have been established in baskets at Hakgala and are to be put out as soon as the fence along the lower part of the bank has been erected by the Public Works Department. The turfing of the bank has been completed.

A number of new beds have been made among the trees to the south of the flower garden and planted up with Azaleas, Agapanthus, Moraea, Streptosolen, &c. The untidy grass bank between this area and the pond has been suitably sloped and returfed, and it will now be possible to keep this portion of the garden regularly mown.

All the beds in the flower garden have been provided with new soil and planted up with various kinds of annuals, &c., and a large number of Delphiniums have been planted in the main border along the Cupressus hedge. The Cupressus trees on the bank between flower garden and main road have been thinned out and the grass in this area is to receive early attention so that it can be kept under the mower.

The summer arbour has been rebuilt and the surroundings tidied up. A Cupressus hedge has been planted on the bank in front of the Coachman's quarters in order to screen the building from the arbour.

The bank above the drive between the house and the Ramboda gate has been tidied up, sloped where necessary and returfed. Beds of lilies and clumps of tree ferns have been established in this area.

The removal of the blue Nymphaeas in ponds has been continued during the year, and the pond near the Staff Cottage has been cleaned out and the Island replanted.

Considerable improvements have been made in the lower end of the old vegetable garden, the entrance gate has been moved to near the green-house and the barbed wire fence put into good order.

Special attention has been given to the growing of Carnations for decorative purposes and a large area has been opened up near the green-house for the cultivation of these flowers, and a large number of plants have been raised from seeds and cuttings.

A new potting shed and storeroom has been built by the Public Works Department and the green-house has been extended.

CUDDESDON GARDEN, NUWARA ELIYA.

The Hakgala Curator reports :—

The general condition of the garden has been improved during the year.

A part of the area at the back of the house has been levelled and planted with Paspalum dilatatum to form a lawn. The area below is to be taken in hand as soon as labour is available.

All the Cupressus hedges have grown well and are now being regularly trimmed.

During November and December considerable damage was done by wild pigs and hares and a wire-netting fence round the vegetable garden is urgently needed.

The grounds between Cuddesdon and the General's house have been tidied up and kept in good order.

QUEEN'S HOUSE GARDEN, COLOMBO.

Several alterations to improve the gardens have been carried out. Large palms in pots have been grown on and placed to furnish the terraces of the portion of Gordon gardens recently taken over. Spathoglottis and Petunia have maintained a good show of colour throughout the year. Two large overgrown and unsightly trees overhanging the entrance drive have been removed and others pruned and shaped. The beds and borders made last year on lawn facing the dining room have been taken away, as the space thus occupied restricted the utility of the remaining lawn area.

TEMPLE TREES GARDENS.

Minor alterations and improvements have been carried out here. The straggling tall hedge at rear of compound has been cut back hard and a small thick hedge planted in front of this to form a solid screen of the unsightly buildings beyond. The Poinciana trees planted in 1923 continue to be affected in the south-west monsoon by the strong sea-breeze. The Plumerias, however, stand the breeze well and should soon form a sufficient screen to protect the compound frontage.

THE KING'S PAVILION GARDEN, KANDY.

These gardens have been well maintained throughout the year. All arches have been repaired and the borders and beds regularly overhauled. Attention was afforded the back boundary portions during the year, the trees planted as screen to buildings along Trincomalee street having been cut back and a long border formed and planted thickly with perennials and shrubs.

THE LODGE GARDEN, KANDY.

The vote to these gardens allow of routine operations only, and these have been well maintained throughout. The tennis court calls for attention as do all the boundary fences. The gardens are badly hampered during dry weather by lack of water.

Peradeniya, January 28, 1926.

T. H. PARSONS,
Curator, Royal Botanic Gardens.

REPORT ON THE HAKGALA BOTANIC GARDENS.

GENERAL.

THE shrubbery on each side of the path leading from upper drive to upper pond has been planted up with specimen trees and shrubs including the following:—*Araucaria Bidwillii*, *Calodendron capense*, *Cotoneaster microphylla*, *Magnolia stellata*, *M. hypoleuca*, *Platanus acerifolia*, *Quercus suber*, *Pittosporum undulatum*, *P. nigrescens*, *Spiraea micrantha*, *Solanum macranthum*, *Musa ensete*, *Eupatorium micranthum*, *Calliandra Guildingii*, *Thuja semper-aurea* &c.

Several large trees, including a handsome specimen of *Araucaria cunninghamii*, were blown down near the upper pond during June. These have been removed and the shrubberies replanted.

The fence round the old vegetable plot has been put into good order to afford protection to the Cherimoyer and Mountain Papaw plants which have been established in this area.

The sides of the ravine opposite the Rose Garden have been rebuilt and the bottom of the ravine paved with stones. A new bridge has been built over this ravine near the east entrance to the Rose Garden.

A considerable amount of sloping has been done in the old rubbish yard area.

A retaining wall along the right of the path leading from lower drive to the cooly lines has been built.

The plot of grass opposite the Rose Garden has been planted up with a collection of palms received from Peradeniya and the grass is now being regularly mown.

A collection of Dahlias purchased from Messrs. Miller & Co., and planted on the terrace above the Azalea and Berberis collection, flowered exceptionally well. One of the Cactus varieties, "Yellow King," produced flowers 8 inches across.

ROCK GARDEN.

The untidy piece of jungle and scrub below the Rock Garden has been cleared and this area laid out and planted up with a collection of indigenous plants.

Four ponds have been made in this extension and each provided with a pipe so that the water can be let out at any time. Three of these ponds have been cemented.

All the paths have been edged with *Scutellaria oblonga*, the blue, free-flowering Sinhalese Skull-cap.

Two new entrances to this part of the garden have been made to join up with the main path through the fernery.

New shrubberies have been made between this area and the fernery and planted up with a collection of Camellias, Hydrangeas, *Streptosolen Jamesonii*, *Spiraea micrantha*, *S. Van Houtte*, &c. A raised border above these shrubberies has been made and planted up with Begonias, Ferns, and other shade-loving plants, and a small lawn of *Paspalum dilatatum* established.

Owing to the swampy nature of this new extension to the Rock Garden practically the whole of the area has been provided with underground drains.

The ponds in the older part of the Rock Garden have been thoroughly overhauled, provided with outlet pipes and put into good order.

The bund of the pond near the upper entrance to the garden has been rebuilt and the banks resloped and returfed.

All the lawns have received attention, practically all being returfed, and the drains and paths put into good order.

Two new lawns have been made round the pond near the summer arbour and the border round the pond has been widened and replanted.

A large number of labels have been put out in the upper part of the garden.

The area under the trees to the north-east of the extension has been sloped and planted up with grass, and beds of Begonias have been established under a few of the trees.

BULB GARDEN.

A collection of the following were received and planted out in February:—*Alstroemeria*, *Anemone*, *Crocus*, *Gladiolus*, *Hemerocallis*, *Iris*, *Montbretia*, *Tigridia*, and *Zephyranthes*. The *Crocus* and *Anemones* failed to grow, but the others have done well, especially *Hemerocallis* "Gold Dust" which has become well established.

The following flowered well during the year:—*Hemerocallis aurantiaca*, *H. fulva*, *H. fulva* fl. pl., *H. "Gold Dust"*, *Agapanthus*, *Tigridias*, *Richardias*, &c.

The creepers round the garden are growing well and *Thunbergia coccinea* started to flower in December and will be very attractive when in full bloom. Of the other creepers which have flowered, well, the following are worth mention:—*Tacsonia Van Volzheimii*, *T. mixta*, *Solanum jasminoides*, *Passiflora caerulea*, *P. stipulata*, and *Maurandya scandens*.

A collection of *Liliums*, &c., has been ordered from Japan and Holland, and beds have been prepared for planting these out early in 1926.

Wire netting has been permanently fixed round the garden and gates made for the two entrances, the gates being placed in position every evening and removed early in the morning. The garden is now well protected against any damage by porcupines which were so troublesome towards the end of 1924 when they destroyed most of the *Liliums* imported from Japan.

Two heavy garden seats have been made and placed against the retaining walls opposite the fountain.

During November all the beds and borders were well manured and replanted and places prepared for the *Liliums*, &c., from Japan and Holland.

The small borders below the retaining walls have been planted up with a collection of bulbous plants and edged with various kinds of *Cyrtanthus* and *Zephyranthes*.

The larger beds and borders have been edged with *Amaryllis belladonna*, *Hippeastrum equestre*, and the variegated *Anthericum*.

Five Mirror carp received from the Chairman, Board of Improvement, Nuwara Eliya, have been placed in the pond and are doing well.

DRIVES, PATHS, AND DRAINS.

The metalling of the whole of the upper drive from the cart shed to the end of the Cupressus avenue was completed early in the year.

The drive above the upper pond has been greatly improved by the cutting back of the bank above and the straightening and widening of the drive. This part of the drive is now much improved for traffic purposes, three dangerous corners being done away with.

The bank above the drive has been supported by a retaining wall of stone, surmounted with a turfed bank, and a new flight of steps built to join up the drive with the path below nursery.

Paths have been attended to periodically and kept in good order.

The drains through the Eucalyptus and Pinus plantations have been widened and deepened and as a result, all water from this area is now carried away into the stream to the east of the Eucalyptus plantation, instead of towards the Rock Garden which was continually being badly washed during heavy rains.

The main drain through the Camphor plantation and nursery, and the drains leading from the old reservoir have also been widened and put in order.

OLD VEGETABLE PLOT.

The old vegetable plot above the propagating sheds has been cleared. Twenty-four holes, 4 feet in diameter, have been opened up and refilled with new soil and planted up with Chermoyers raised from seed received from Mr. John Cotton, and the opposite spaces between the rows planted up with a new variety of Mountain Papaw raised from seed received from Mr. W. O'Brien, Hyderabad, India.

BOUNDARY FENCE.

A strip of jungle 600 yards long and 5 yards wide has been cleared along the west boundary. 300 plants of *Cupressus macrocarpa* have been planted along this clearing and the barbed wire fence re-erected. It is intended to fix the barbed wire to the Cupressus plants when they are large enough, and so form a permanent fence which will keep out sambur which frequently come into the gardens and do a considerable amount of damage.

INTRODUCTIONS.

Plants and seeds have been received from the following:—The Department of Agriculture, U.S.A.; The Director, Brignoles Botanic Station, France; the Curator, Lloyd Botanic Gardens, Darjeeling; Mr. W. J. Dowson, R.H.S. Gardens, Wisley, Surrey; Messrs. Sutton & Sons, England; Professor Juan Balme, Mexico; Mr. C. F. Brady, Newlands Park, W. Australia; Mr. W. Nock, West Hagley, Worcestershire; the Director of Agriculture, Buitenzorg, Java; Vice-Admiral Sir L. Clinton Baker, Hertfordshire; and Messrs. J. J. Grullemans & Sons, Lisse, Holland.

And from the following in the Island:—Mr. H. M. Drummond-Hay, Lennoch, Diyatalawa; Mr. K. L. Gordon, Rappahannock, Udapussellawa; Mr. S. B. Stedman, Meeriacotta, Maskeliya; Vice-Admiral H. W. Richmond, Diyatalawa; the Director of Agriculture; and the Curator, Royal Botanical Gardens, Peradeniya.

STOREROOM.

The two stables adjoining the rice room have been made into a storeroom for the tools, &c., Two windows have been made in the front and side walls respectively. The gravelled area here will answer in future as the muster ground for the coolies.

CINCHONA.

The old Aleurites plot near the laboratory was cleared early in the year and 25 new beds made for planting the following kinds of Cinchona which were put out on January 21:—Ten *Cinchona officinalis*, 10 *C. ledgeriana*, and 5 *C. succirubra*. These plants were raised from seed received from the Manager, Munsong Cinchona Plantation, Kalimpong, Bengal.

In addition to the above, plants of the following raised from seed from the same source have been planted out in a plot on the patana above the Camphor plantation:—Thirty-seven *Cinchona succirubra*, 13 *C. ledgeriana*, and 23 *C. officinalis*.

ALEURITES.

Plants of the following Aleurites, raised from seed received from Hong Kong, have been planted on the patana above the timber plantation:—Fourteen *Aleurites fordii* and 14 *A. montana*.

The plants of Aleurites put out in this area in 1923 have made very little growth, but have done better than those planted out near the Laboratory.

GRAPE FRUIT.

Twelve plants of grape fruit received from Peradeniya were planted out in various parts of the gardens in April and have so far made fair growth.

REVENUE.

The amount realized by sales of plants and seeds for the twelve months ended December 31 was Rs. 1,100.54, and for the twelve months ended September 30, Rs. 1,206.99.

The value of plants and seeds issued gratis or in exchange to Government institutions, &c., was Rs. 502.65.

METEOROLOGICAL.

The number of inches of rain recorded during the year was 117.43 falling on 228 days, compared to 98.69 inches on 226 days during 1924.

The wettest month was December with a rainfall of 19.21 inches, and the driest month July with 1.54 inches.

The highest temperature in the sun's rays was 154.1 on July 31, compared to 151.2 on October 13 of the previous year.

The lowest temperature on the grass was 36.7 on January 26, compared to 38.4 on February 23 of the previous year.

REPORT ON THE NUWARA ELIYA GARDEN.

A SPIRÆA hedge has been planted along the side of the main road near the lodge to take the place of the Berberis hedge which was unsightly and full of gaps.

Cement steps have been built up the bank below the Rose Garden and at the top of the path leading to the main road between the Post Office and Memorial Corner.

The lower branches of the trees in the Cupressus avenues have been trimmed and the removal of coarse grass in the lawns has been continued during the year.

The shrubs on the island in pond near the lodge have been trimmed and the island planted up with Agapanthus, &c.

A new path has been made to form an outlet near the War Memorial, the path being joined up with the path through the lawn to the north of the Memorial and leading to a gate on the main road. This new outlet was necessary as several gaps were being made by the public in making a way through the Cupressus hedge which surrounds the Memorial.

Four new borders have been made in the Rose Garden and were planted up with 4 dozen roses received from Messrs. G. Brunning & Sons, Australia, in July.

The old nursery site has been levelled off and turfed, and flower beds will be made in this area as soon as the turf has become well established.

The shrubbery along the boundary below Park road has been extended towards the row of *Cupressus lawsoniana*. The grass removed from the bank has been used for turfing the nursery site.

Two propagating sheds have been built between the upper drive and Park road.

The grass verges along the main drive which are being continually damaged by pedestrians have been renewed and the drive made uniform in width.

The pilfering of plants and flowers still continues and it is impossible to make a show of any kind in the garden. A large number of *Antirrhinum* plants in the beds along main drive were stolen during November and December. Practically all the roses disappear as they come into flower.

January 18, 1926.

JAMES J. NOCK,
Curator.